SEQUENCE LISTING

<110> Tenaya Therapeutics Inc.
Reid, Christopher A.

<120> ADENO-ASSOCIATED VIRUS WITH ENGINEERED CAPSID

<130> TENA-012/02WO 334682-2079

<150> US 62/984,197
<151> 2020-03-02

<150> US 62/827,576
<151> 2019-04-01

<160> 1107

<170> PatentIn version 3.5

<210> 1
<211> 724
<212> PRT
<213> Dependoparvovirus adeno associated virus 5

<400> 1

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

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Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300
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Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495
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Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700
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Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705 710 715 720

Thr Arg Pro Leu

<210> 2
<211> 350
<212> PRT
<213> Dependoparvovirus adeno associated virus 5

<400> 2

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

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    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
    210                 215                 220

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
225                 230                 235                 240

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
                245                 250                 255

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
            260                 265                 270

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
        275                 280                 285

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
    290                 295                 300

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
305                 310                 315                 320

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
                325                 330                 335
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Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln
            340                 345                 350


<210>  3
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<212>  PRT
<213>  Dependoparvovirus adeno associated virus 5

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Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
1               5                   10                  15


Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
            20                  25                  30


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
        35                  40                  45


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
    50                  55                  60


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
65                  70                  75                  80


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
                85                  90                  95


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
            100                 105                 110


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
        115                 120                 125


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
    130                 135                 140


Tyr Leu Thr Arg Pro Leu
145                 150
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<210> 4
<211> 509
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant Dependoparvovirus adeno associated virus 5 Capsid Protein VP3

<220>
<221> MISC_FEATURE
<222> (351)..(359)
<223> Xaa can be any naturally occurring amino acid

<400> 4

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
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Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

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Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
    210                 215                 220

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
225                 230                 235                 240

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
                245                 250                 255

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
            260                 265                 270

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
        275                 280                 285

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
    290                 295                 300

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
305                 310                 315                 320

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
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                325                 330                 335

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Xaa Xaa
            340                 345                 350

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ser Ser Thr Thr Ala Pro Ala Thr Gly
        355                 360                 365

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
    370                 375                 380

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
385                 390                 395                 400

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
                405                 410                 415

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
            420                 425                 430

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
        435                 440                 445

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
    450                 455                 460

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
465                 470                 475                 480

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
                485                 490                 495

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
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<210>  5
<211>  509
<212>  PRT
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<213> Artificial Sequence

<220>
<223> Recombinant Dependoparvovirus adeno associated virus 5 Capsid Protein VP3

<220>
<221> MISC_FEATURE
<222> (352)..(358)
<223> Xaa can be any naturally occurring amino acid

<400> 5

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

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Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
    210                 215                 220

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
225                 230                 235                 240

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
                245                 250                 255

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
            260                 265                 270

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
        275                 280                 285

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
    290                 295                 300

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
305                 310                 315                 320

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
                325                 330                 335

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Xaa
            340                 345                 350
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```
Xaa Xaa Xaa Xaa Xaa Xaa Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
        355                 360                 365

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
    370                 375                 380

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
385                 390                 395                 400

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
                405                 410                 415

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
            420                 425                 430

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
        435                 440                 445

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
    450                 455                 460

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
465                 470                 475                 480

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
                485                 490                 495

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
            500                 505
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<223> Oligonucleotide primer P1

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<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (37)..(38)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (40)..(41)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (43)..(44)
<223> n is a, c, g, or t

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<222> (46)..(47)
<223> n is a, c, g, or t

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<222> (49)..(50)
<223> n is a, c, g, or t

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<222> (52)..(53)
<223> n is a, c, g, or t

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tccaccactg cccccgcgac cggcacg 87

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<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer P2

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<210> 8
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer P3

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<210> 9
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR2

<400> 9

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1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

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Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300
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```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495
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Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Arg
                565                 570                 575

Lys Val His Ile Glu Val Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700
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Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720


Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730


<210>  10
<211>  733
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  AAV5.CR5

<400>  10

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125
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```
Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320
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Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525
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Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Arg
                565                 570                 575

Lys Tyr Gln Ser Asp Leu Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720
```

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
725 730

<210> 11
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR8

<400> 11

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
100 105 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
115 120 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
130 135 140

```
Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540
```

```
Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Arg
                565                 570                 575

Lys His His Gly Leu Glu Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 12
<211> 733

<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR17

<400> 12

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160


Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175
```

```
Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365
```

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575
```

```
Leu Thr Asn Thr Val Lys Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 13
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR18

<400> 13

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190
```

```
Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400
```

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Leu
                565                 570                 575

Lys Tyr His Gly Pro Pro Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590
```

```
Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 14
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR19

<400> 14

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15
```

```
Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220
```

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Arg
                565                 570                 575

Lys Tyr Gln Gly Asp Met Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620
```

```
Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640


Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655


Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670


Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685


Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700


Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720


Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730


<210>  15
<211>  733
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  AAV5.CR20

<400>  15

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45
```

```
Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445
```

```
Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Arg
                565                 570                 575

Lys Phe His Ser Thr Asp Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640
```

```
Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 16
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR21

<400> 16

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60
```

```
Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160


Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175


Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190


Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205


Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220


Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460
```

```
Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Gly Thr Asn Val Thr Lys Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670
```

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
675 680 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
690 695 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705 710 715 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
725 730

<210> 17
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR22

<400> 17

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

```
Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495
```

```
Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Arg
                565                 570                 575

Lys Met His Met Pro Asp Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685
```

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
690 695 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705 710 715 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
725 730

<210> 18
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR23

<400> 18

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
100 105 110

```
Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510
```

```
Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Leu Lys Lys Ile Val Gln Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720
```

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
725 730

<210> 19
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR24

<400> 19

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
100 105 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
115 120 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
130 135 140

```
Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335
```

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540
```

```
Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Leu Gly Lys Lys Thr Ser Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 20
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR25

<400> 20

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160
```

```
Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365
```

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560
```

```
Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Arg Gly Val Lys Val Thr Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 21
<211> 733
<212> PRT
<213> Artificial Sequence

<220>

<223> AAV5.CR26

<400> 21

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160


Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175


Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190
```

```
Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380
```

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Leu Ala Lys Ser Lys Ser Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590
```

```
Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730


<210>  22
<211>  733
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  AAV5.CR27

<400>  22

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15
```

```
Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205
```

```
Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Arg Thr Lys Gly Ala Val Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605
```

```
Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 23
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR28

<400> 23

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30
```

```
Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Ser Gly Arg Lys Ala Thr Ala Ser Ser Thr Thr Ala Pro Ala Thr Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640
```

```
Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655


Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670


Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685


Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700


Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720


Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730


<210>  24
<211>  724
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  AAV5.K251R

<400>  24

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60
```

```
Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Arg Ser Gly Ser Val Asp
                245                 250                 255
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460
```

```
Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655
```

```
Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 25
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.S485A

<400> 25

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80
```

```
Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480
```

```
Val Asn Arg Ala Ala Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685
```

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690   695   700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705   710   715   720

Thr Arg Pro Leu

<210> 26
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.S651A

<400> 26

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1   5   10   15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20   25   30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35   40   45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50   55   60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65   70   75   80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85   90   95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100   105   110

```
Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510
```

```
Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ala Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700
```

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705 710 715 720

Thr Arg Pro Leu

<210> 27
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.T578A

<400> 27

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
100 105 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
115 120 125

```
Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335
```

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525
```

```
Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Ala Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 28
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.T582A

<400> 28

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160
```

```
Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560
```

```
Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Ala Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 29
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.Y709F

<400> 29

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160


Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175
```

```
Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380
```

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575
```

```
Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Phe Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 30
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.Y693F

<400> 30

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205
```

```
Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400
```

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605
```

```
Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Phe Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 31
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR17(444) andT591A

<400> 31

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30
```

```
Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220
```

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
        435                 440                 445

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
    450                 455                 460

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
465                 470                 475                 480

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
                485                 490                 495

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
            500                 505                 510

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
        515                 520                 525

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
    530                 535                 540

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
545                 550                 555                 560

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
                565                 570                 575

Gln Met Ala Thr Asn Asn Gln Ser Ser Thr Thr Ala Pro Ala Ala Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620
```

```
Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640


Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655


Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670


Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685


Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700


Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720


Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
```

<210> 32
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR17(575) and T591A

<400> 32

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45
```

```
Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445
```

```
Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Leu Thr Asn Thr Val Lys Ala Ser Ser Thr Thr Ala Pro Ala Ala Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655
```

Thr Ser Phe Ser Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
660 665 670

Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
675 680 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
690 695 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705 710 715 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
725 730

<210> 33
<211> 733
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.CR17(575) and T591A and S660A

<400> 33

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

```
Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480
```

```
Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ala Pro
                565                 570                 575

Leu Thr Asn Thr Val Lys Ala Ser Ser Thr Thr Ala Pro Ala Ala Gly
            580                 585                 590

Thr Tyr Asn Leu Gln Glu Ile Val Pro Gly Ser Val Trp Met Glu Arg
        595                 600                 605

Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro Glu Thr Gly
    610                 615                 620

Ala His Phe His Pro Ser Pro Ala Met Gly Gly Phe Gly Leu Lys His
625                 630                 635                 640

Pro Pro Pro Met Met Leu Ile Lys Asn Thr Pro Val Pro Gly Asn Ile
                645                 650                 655

Thr Ser Phe Ala Asp Val Pro Val Ser Ser Phe Ile Thr Gln Tyr Ser
            660                 665                 670
```

```
Thr Gly Gln Val Thr Val Glu Met Glu Trp Glu Leu Lys Lys Glu Asn
        675                 680                 685

Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Asn Asn Tyr Asn Asp
    690                 695                 700

Pro Gln Phe Val Asp Phe Ala Pro Asp Ser Thr Gly Glu Tyr Arg Thr
705                 710                 715                 720

Thr Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
                725                 730
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<210> 34
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> AAV5.T582A and S651A

<400> 34

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Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95
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```
Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300
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```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495
```

```
Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Ala Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ala Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700
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Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705 710 715 720

Thr Arg Pro Leu

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<210> 51
<211> 2202
<212> DNA
<213> Artificial Sequence

<220>
<223> Recombinant polynucleotide engineered capsid AAV5.CR2

<400> 51
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gcccgtggtc ttgtgctgcc tggttataac tatctcggac ccggaaacgg tctcgatcga 180

ggagagcctg tcaacagggc agacgaggtc gcgcgagagc acgacatctc gtacaacgag 240

cagcttgagg cgggagacaa cccctacctc aagtacaacc acgcggacgc cgagtttcag 300

gagaagctcg ccgacgacac atccttcggg ggaaacctcg gaaaggcagt ctttcaggcc 360

aagaaaaggg ttctcgaacc ttttggcctg gttgaagagg gtgctaagac ggcccctacc 420

ggaaagcgga tagacgacca ctttccaaaa agaaagaagg ctcggaccga agaggactcc 480

aagccttcca cctcgtcaga cgccgaagct ggacccagcg gatcccagca gctgcaaatc 540

ccagcccaac cagcctcaag tttgggagct gatacaatgt ctgcgggagg tggcggccca 600

ttgggcgaca ataaccaagg tgccgatgga gtgggcaatg cctcgggaga ttggcattgc 660

gattccacgt ggatgggggа cagagtcgtc accaagtcca cccgaacctg ggtgctgccc 720

agctacaaca accaccagta ccgagagatc aaaagcggct ccgtcgacgg aagcaacgcc 780

aacgcctact ttggatacag cacccctgg gggtactttg actttaaccg cttccacagc 840

cactggagcc cccgagactg gcaaagactc atcaacaact actggggctt cagaccccgg 900

tccctcagag tcaaaatctt caacattcaa gtcaaagagg tcacggtgca ggactccacc 960

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tttacgctgc cgcagtacgg ttacgcgacg ctgaaccgcg acaacacaga aaatcccacc 1140

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aactttgagt ttacctacaa ctttgaggag gtgcccttcc actccagctt cgctcccagt 1260

cagaacctct tcaagctggc caacccgctg gtggaccagt acttgtaccg cttcgtgagc 1320

acaaataaca ctggcggagt ccagttcaac aagaacctgg ccgggagata cgccaacacc 1380

tacaaaaact ggttcccggg gcccatgggc cgaacccagg gctggaacct gggctccggg 1440

gtcaaccgcg ccagtgtcag cgccttcgcc acgaccaata ggatggagct cgagggcgcg 1500

agttaccagg tgcccccgca gccgaacggc atgaccaaca acctccaggg cagcaacacc 1560

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gacgtgcccg tcagcagctt catcacccag tacagcaccg ggcaggtcac cgtggagatg 2040

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aactacaacg acccccagtt tgtggacttt gccccggaca gcaccggggga atacagaacc 2160

accagaccta tcggaacccg ataccttacc cgacccctttt aa 2202

<210> 52
<211> 2202
<212> DNA
<213> Artificial Sequence

<220>
<223> Recombinant polynucleotide engineered capsid AAV5.CR5

<400> 52
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ggagagcctg tcaacagggc agacgaggtc gcgcgagagc acgacatctc gtacaacgag 240

cagcttgagg cgggagacaa cccctacctc aagtacaacc acgcggacgc cgagtttcag 300

gagaagctcg ccgacgacac atccttcggg ggaaacctcg gaaaggcagt ctttcaggcc 360

aagaaaaggg ttctcgaacc ttttggcctg gttgaagagg gtgctaagac ggcccctacc 420

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gattccacgt ggatggggga cagagtcgtc accaagtcca cccgaacctg ggtgctgccc 720

agctacaaca accaccagta ccgagagatc aaaagcggct ccgtcgacgg aagcaacgcc 780

aacgcctact ttggatacag cacccctgg gggtactttg actttaaccg cttccacagc 840

cactggagcc cccgagactg gcaaagactc atcaacaact actggggctt cagaccccgg 900

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accaccatcg ccaacaacct cacctccacc gtccaagtgt ttacggacga cgactaccag 1020

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tttacgctgc cgcagtacgg ttacgcgacg ctgaaccgcg acaacacaga aaatcccacc 1140

gagaggagca gcttcttctg cctagagtac tttcccagca agatgctgag aacgggcaac 1200

aactttgagt ttacctacaa ctttgaggag gtgcccttcc actccagctt cgctcccagt 1260

cagaacctct tcaagctggc caacccgctg gtggaccagt acttgtaccg cttcgtgagc 1320

acaaataaca ctggcggagt ccagttcaac aagaacctgg ccgggagata cgccaacacc 1380

tacaaaaact ggttcccggg gcccatgggc cgaacccagg gctggaacct gggctccggg 1440

gtcaaccgcg ccagtgtcag cgccttcgcc acgaccaata ggatggagct cgagggcgcg 1500

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gacgtgcccg tcagcagctt catcacccag tacagcaccg ggcaggtcac cgtggagatg 2040

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aactacaacg acccccagtt tgtggacttt gccccggaca gcaccgggga atacagaacc 2160

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<210> 53
<211> 2202
<212> DNA
<213> Artificial Sequence

<220>
<223> Recombinant polynucleotide engineered capsid AAV5.CR8

<400> 53
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ggagagcctg tcaacagggc agacgaggtc gcgcgagagc acgacatctc gtacaacgag 240

cagcttgagg cgggagacaa cccctacctc aagtacaacc acgcggacgc cgagtttcag 300

gagaagctcg ccgacgacac atccttcggg ggaaacctcg gaaaggcagt ctttcaggcc 360

aagaaaaggg ttctcgaacc ttttggcctg gttgaagagg gtgctaagac ggcccctacc 420

ggaaagcgga tagacgacca ctttccaaaa agaaagaagg ctcggaccga agaggactcc 480

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gattccacgt ggatgggggga cagagtcgtc accaagtcca cccgaacctg ggtgctgccc 720

agctacaaca accaccagta ccgagagatc aaaagcggct ccgtcgacgg aagcaacgcc 780

aacgcctact ttggatacag caccccctgg gggtactttg actttaaccg cttccacagc 840

cactggagcc cccgagactg gcaaagactc atcaacaact actggggctt cagaccccgg 900

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aactttgagt ttacctacaa ctttgaggag gtgcccttcc actccagctt cgctcccagt 1260

cagaacctct tcaagctggc caacccgctg gtggaccagt acttgtaccg cttcgtgagc 1320

acaaataaca ctggcggagt ccagttcaac aagaacctgg ccgggagata cgccaacacc 1380

tacaaaaact ggttcccggg gcccatgggc cgaacccagg gctggaacct gggctccggg 1440

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<210> 54
<211> 2202
<212> DNA
<213> Artificial Sequence

<220>
<223> Recombinant polynucleotide engineered capsid AAV5.CR17

<400> 54
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ggagagcctg tcaacagggc agacgaggtc gcgcgagagc acgacatctc gtacaacgag 240

cagcttgagg cgggagacaa cccctacctc aagtacaacc acgcggacgc cgagtttcag 300

gagaagctcg ccgacgacac atccttcggg ggaaacctcg gaaaggcagt ctttcaggcc 360

aagaaaaggg ttctcgaacc ttttggcctg gttgaagagg gtgctaagac ggcccctacc 420

ggaaagcgga tagacgacca ctttccaaaa agaaagaagg ctcggaccga agaggactcc 480

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ttgggcgaca ataaccaagg tgccgatgga gtgggcaatg cctcgggaga ttggcattgc 660

gattccacgt ggatggggga cagagtcgtc accaagtcca cccgaacctg ggtgctgccc 720

agctacaaca accaccagta ccgagagatc aaaagcggct ccgtcgacgg aagcaacgcc 780

aacgcctact ttggatacag caccccctgg gggtactttg actttaaccg cttccacagc 840

cactggagcc cccgagactg gcaaagactc atcaacaact actggggctt cagaccccgg 900

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<212> DNA
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<223> Recombinant polynucleotide engineered capsid AAV5.T578A

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<211> 2175
<212> DNA
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<223> Recombinant polynucleotide engineered capsid AAV5.T582A

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<212> DNA
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<223> Recombinant polynucleotide engineered capsid AAV5.Y709F

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tccctcagag tcaaaatctt caacattcaa gtcaaagagg tcacggtgca ggactccacc 960

accaccatcg ccaacaacct cacctccacc gtccaagtgt ttacggacga cgactaccag 1020

ctgccctacg tcgtcggcaa cgggaccgag ggatgcctgc cggccttccc tccgcaggtc 1080

tttacgctgc cgcagtacgg ttacgcgacg ctgaaccgcg acaacacaga aaatcccacc 1140

gagaggagca gcttcttctg cctagagtac tttcccagca agatgctgag aacgggcaac 1200

aactttgagt ttacctacaa ctttgaggag gtgcccttcc actccagctt cgctcccagt 1260

cagaacctct tcaagctggc caacccgctg gtggaccagt acttgtaccg cttcgtgagc 1320

acaaataaca ctggcggagt ccagttcaac aagaacctgg ccgggagata cgccaacacc 1380

tacaaaaact ggttcccggg gcccatgggc cgaacccagg gctggaacct gggctccggg 1440

gtcaaccgcg ccagtgtcag cgccttcgcc acgaccaata ggatggagct cgagggcgcg 1500

agttaccagg tgcccccgca gccgaacggc atgaccaaca acctccaggg cagcaacacc 1560

tatgccctgg agaacactat gatcttcaac agccagccgg cgaacccggg caccaccgcc 1620

acgtacctcg agggcaacat gctcatcacc agcgagagcg agacgcagcc ggtgaaccgc 1680

gtggcgtaca acgtcggcgg gcagatggcc accaacaacc agagctccac cactgccccc 1740

gcgaccggca cgtacaacct ccaggaaatc gtgcccggca gcgtgtggat ggagagggac 1800

gtgtacctcc aaggacccat ctgggccaag atcccagaga cgggggcgca ctttcacccc 1860

tctccggcca tgggcggatt cggactcaaa cacccaccgc ccatgatgct catcaagaac 1920

acgcctgtgc ccggaaatat caccagcttc tcggacgtgc ccgtcagcag cttcatcacc 1980

cagtacagca ccgggcaggt caccgtggag atggagtggg agctcaagaa ggaaaactcc 2040

aagaggtgga acccagagat ccagtacaca aacaacttca acgaccccca gtttgtggac 2100

tttgccccgg acagcaccgg ggaatacaga accaccagac ctatcggaac ccgatacctt 2160

acccgacccc tttaa 2175

<210> 73
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<220>
<221> MISC_FEATURE
<222> (578)..(578)

<223> Xaa is Ala, Gly, Val, Ser or Thr

<220>
<221> MISC_FEATURE
<222> (582)..(582)
<223> Xaa is Ala, Gly, Val, Ser or Thr

<220>
<221> MISC_FEATURE
<222> (651)..(651)
<223> Xaa is Ala, Gly, Val, Ser or Thr

<400> 73

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140
```

```
Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540
```

```
Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Xaa Ala Pro Ala Xaa Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Xaa Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 74
<211> 724

<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<400> 74

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45


Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60


Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160


Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175
```

```
Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365
```

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575
```

```
Thr Ala Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 75
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<400> 75

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                  10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190
```

```
Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400
```

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Ala Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590
```

```
Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
```

<210> 76
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<400> 76

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15
```

```
Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220
```

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620
```

```
Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640


Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ala Asp Val Pro Val Ser
                645                 650                 655


Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670


Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685


Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700


Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720


Thr Arg Pro Leu
```

<210> 77
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<400> 77

```
Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15


Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30


Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45
```

```
Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445
```

```
Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Ala Ala Pro Ala Ala Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640
```

```
Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720

Thr Arg Pro Leu
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<210> 78
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<400> 78

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Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1               5                   10                  15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
            20                  25                  30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
        35                  40                  45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
    50                  55                  60
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Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65                  70                  75                  80


Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
                85                  90                  95


Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110


Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125


Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140


Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160


Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175


Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190


Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205


Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220


Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270
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```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460
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```
Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Ala Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ala Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670
```

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
675 680 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
690 695 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705 710 715 720

Thr Arg Pro Leu

<210> 79
<211> 724
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<400> 79

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

```
Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
            100                 105                 110

Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495
```

```
Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510

Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Thr Ala Pro Ala Ala Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ala Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685
```

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
690 695 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705 710 715 720

Thr Arg Pro Leu

<210> 80
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<212> PRT
<213> Artificial Sequence

<220>
<223> mutated AAV5 capsid protein

<400> 80

Met Ser Phe Val Asp His Pro Pro Asp Trp Leu Glu Glu Val Gly Glu
1 5 10 15

Gly Leu Arg Glu Phe Leu Gly Leu Glu Ala Gly Pro Pro Lys Pro Lys
20 25 30

Pro Asn Gln Gln His Gln Asp Gln Ala Arg Gly Leu Val Leu Pro Gly
35 40 45

Tyr Asn Tyr Leu Gly Pro Gly Asn Gly Leu Asp Arg Gly Glu Pro Val
50 55 60

Asn Arg Ala Asp Glu Val Ala Arg Glu His Asp Ile Ser Tyr Asn Glu
65 70 75 80

Gln Leu Glu Ala Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala Asp
85 90 95

Ala Glu Phe Gln Glu Lys Leu Ala Asp Asp Thr Ser Phe Gly Gly Asn
100 105 110

```
Leu Gly Lys Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro Phe
        115                 120                 125

Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Thr Gly Lys Arg Ile
    130                 135                 140

Asp Asp His Phe Pro Lys Arg Lys Lys Ala Arg Thr Glu Glu Asp Ser
145                 150                 155                 160

Lys Pro Ser Thr Ser Ser Asp Ala Glu Ala Gly Pro Ser Gly Ser Gln
                165                 170                 175

Gln Leu Gln Ile Pro Ala Gln Pro Ala Ser Ser Leu Gly Ala Asp Thr
            180                 185                 190

Met Ser Ala Gly Gly Gly Gly Pro Leu Gly Asp Asn Asn Gln Gly Ala
        195                 200                 205

Asp Gly Val Gly Asn Ala Ser Gly Asp Trp His Cys Asp Ser Thr Trp
    210                 215                 220

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
225                 230                 235                 240

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
                245                 250                 255

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
            260                 265                 270

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
        275                 280                 285

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
    290                 295                 300

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
305                 310                 315                 320
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
                325                 330                 335

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
            340                 345                 350

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
        355                 360                 365

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
    370                 375                 380

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
385                 390                 395                 400

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
                405                 410                 415

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
            420                 425                 430

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Thr Gly Gly Val Gln
        435                 440                 445

Phe Asn Lys Asn Leu Ala Gly Arg Tyr Ala Asn Thr Tyr Lys Asn Trp
    450                 455                 460

Phe Pro Gly Pro Met Gly Arg Thr Gln Gly Trp Asn Leu Gly Ser Gly
465                 470                 475                 480

Val Asn Arg Ala Ser Val Ser Ala Phe Ala Thr Thr Asn Arg Met Glu
                485                 490                 495

Leu Glu Gly Ala Ser Tyr Gln Val Pro Pro Gln Pro Asn Gly Met Thr
            500                 505                 510
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```
Asn Asn Leu Gln Gly Ser Asn Thr Tyr Ala Leu Glu Asn Thr Met Ile
        515                 520                 525

Phe Asn Ser Gln Pro Ala Asn Pro Gly Thr Thr Ala Thr Tyr Leu Glu
    530                 535                 540

Gly Asn Met Leu Ile Thr Ser Glu Ser Glu Thr Gln Pro Val Asn Arg
545                 550                 555                 560

Val Ala Tyr Asn Val Gly Gly Gln Met Ala Thr Asn Asn Gln Ser Ser
                565                 570                 575

Thr Ala Ala Pro Ala Ala Gly Thr Tyr Asn Leu Gln Glu Ile Val Pro
            580                 585                 590

Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp
        595                 600                 605

Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro Ala Met
    610                 615                 620

Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile Lys Asn
625                 630                 635                 640

Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ala Asp Val Pro Val Ser
                645                 650                 655

Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu Met Glu
            660                 665                 670

Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln
        675                 680                 685

Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala Pro Asp
    690                 695                 700

Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705                 710                 715                 720
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Thr Arg Pro Leu

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<400> 81

Arg Lys Val His Ile Glu Val
1 5

<210> 82
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<400> 82

Arg Lys Tyr Gln Ser Asp Leu
1 5

<210> 83
<211> 7
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<220>
<223> Artificial peptide sequence

<400> 83

Pro Leu Thr Asn Thr Val Lys
1 5

<210> 84
<211> 7

<212> PRT
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<220>
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<400> 84

Leu Lys Tyr His Gly Pro Pro
1   5

<210> 85
<211> 7
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<400> 85

Arg Lys Tyr Gln Gly Asp Met
1   5

<210> 86
<211> 7
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<220>
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<400> 86

Arg Lys Phe His Ser Thr Asp
1   5

<210> 87
<211> 7
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<400> 87

Arg Lys His His Gly Leu Glu
1 5

<210> 88
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<400> 88

Pro Gly Thr Asn Val Thr Lys
1 5

<210> 89
<211> 7
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<220>
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<400> 89

Arg Lys Met His Met Pro Asp
1 5

<210> 90
<211> 7
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<400> 90

Pro Leu Lys Lys Ile Val Gln
1 5

<210> 91
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<220>
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<400> 91

Pro Leu Gly Lys Lys Thr Ser
1   5

<210> 92
<211> 7
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<220>
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<400> 92

Pro Arg Gly Val Lys Val Thr
1   5

<210> 93
<211> 7
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<220>
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<400> 93

Pro Leu Ala Lys Ser Lys Ser
1   5

<210> 94
<211> 7
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<400> 94

Pro Arg Thr Lys Gly Ala Val
1   5

<210> 95
<211> 7
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<400> 95

Pro Ser Gly Arg Lys Ala Thr
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<210> 96

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Ala Xaa Xaa Xaa Xaa Xaa Xaa Ala
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<400> 101

Ala Arg Lys Val His Ile Glu Val Ala
1 5

<210> 102
<211> 9
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<220>
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<400> 102

Ala Arg Lys Tyr Gln Ser Asp Leu Ala
1 5

<210> 103
<211> 9
<212> PRT
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<220>
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<400> 103

Ala Pro Leu Thr Asn Thr Val Lys Ala
1 5

<210> 104
<211> 9

<212> PRT
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<220>
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<400> 104

Ala Leu Lys Tyr His Gly Pro Pro Ala
1   5

<210> 105
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<400> 105

Ala Arg Lys Tyr Gln Gly Asp Met Ala
1   5

<210> 106
<211> 9
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<220>
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<400> 106

Ala Arg Lys Phe His Ser Thr Asp Ala
1   5

<210> 107
<211> 9
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<400> 107

Ala Arg Lys His His Gly Leu Glu Ala
1 5

<210> 108
<211> 9
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<400> 108

Ala Pro Gly Thr Asn Val Thr Lys Ala
1 5

<210> 109
<211> 9
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<400> 109

Ala Arg Lys Met His Met Pro Asp Ala
1 5

<210> 110
<211> 9
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<220>
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<400> 110

Ala Pro Leu Lys Lys Ile Val Gln Ala
1 5

<210> 111
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 111

Ala Pro Leu Gly Lys Lys Thr Ser Ala
1   5

<210> 112
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 112

Ala Pro Arg Gly Val Lys Val Thr Ala
1   5

<210> 113
<211> 9
<212> PRT
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<220>
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<400> 113

Ala Pro Leu Ala Lys Ser Lys Ser Ala
1   5

<210> 114
<211> 9
<212> PRT
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<220>
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<400> 114

Ala Pro Arg Thr Lys Gly Ala Val Ala
1   5

<210> 115
<211> 9
<212> PRT
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<400> 115

Ala Pro Ser Gly Arg Lys Ala Thr Ala
1   5

<210> 116
<211> 9
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<400> 116

Ala Arg Lys Ile His Leu Asp Ala Ala
1   5

<210> 117
<211> 9
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<220>
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<400> 117

Ala Pro Tyr His Asn Ala Thr Lys Ala
1   5

<210> 118
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

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<400> 118

Ala Arg Lys Trp His Asp Thr Glu Ala
1   5

<210> 119
<211> 9
<212> PRT
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<400> 119

Ala Pro Val Ala Asn Val Thr Lys Ala
1   5

<210> 120
<211> 9
<212> PRT
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<220>
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<400> 120

Ala Arg Lys Val His Ile Gly Val Ala
1   5

<210> 121
<211> 9
<212> PRT
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<220>
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<400> 121

Ala Pro Leu Asn Asn Ser Val Lys Ala
1   5

<210> 122
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificial peptide sequence

<400> 122

Ala Arg Arg Tyr His Gly Ser Glu Ala
1   5

<210> 123
<211> 9
<212> PRT
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<220>
<223> Artificial peptide sequence

<400> 123

Ala Tyr Gly His Pro Asn Val Ile Ala
1   5

<210> 124
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 124

Ala Pro Phe Thr Asn Ser Thr Lys Ala
1   5

<210> 125
<211> 9
<212> PRT
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<220>
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<400> 125

Ala Arg Lys Val Gln Val Gly Val Ala
1 5

<210> 126
<211> 9
<212> PRT
<213> Artificial Sequence

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<400> 126

Ala Gly Arg Cys Ile Leu Arg Val Ala
1 5

<210> 127
<211> 9
<212> PRT
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<220>
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<400> 127

Ala Lys Ile Lys Thr Gly Val Pro Ala
1 5

<210> 128
<211> 9
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<220>
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<400> 128

Ala Trp His Asn Ser Tyr Pro His Ala
1 5

<210> 129
<211> 9

<212> PRT
<213> Artificial Sequence

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<400> 129

Ala Pro Ser Val Asn Leu Thr Lys Ala
1   5

<210> 130
<211> 9
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<223> Artificial peptide sequence

<400> 130

Ala Pro Leu Ser Asn Leu Val Lys Ala
1   5

<210> 131
<211> 9
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<213> Artificial Sequence

<220>
<223> Artificial peptide sequence

<400> 131

Ala Arg Lys Phe His Thr Glu Thr Ala
1   5

<210> 132
<211> 9
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<400> 132

Ala Gly Arg Phe Ile Leu Asp Ala Ala
1 5

<210> 133
<211> 9
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<220>
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<400> 133

Ala Val Lys Gln Asn Gln Thr Lys Ala
1 5

<210> 134
<211> 9
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Ala Val Arg Ser Asn Lys Val Ala Ala
1 5

<210> 135
<211> 9
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<400> 135

Ala Gly Arg Cys Ile Leu Arg Trp Ala
1 5

<210> 136
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 136

Ala Arg Lys Trp Gln Gln Ser Glu Ala
1   5

<210> 137
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificial peptide sequence

<400> 137

Ala Pro Leu Lys Asn Gly Thr Lys Ala
1   5

<210> 138
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificial peptide sequence

<400> 138

Ala Gly Leu Lys Asn Ala Val Lys Ala
1   5

<210> 139
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 139

Ala Pro Ala Ile Asn His Val Lys Ala
1   5

<210> 140
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 140

Ala Gly Val Leu Ser Asn Arg Ile Ala
1   5

<210> 141
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Ala Glu Val Ser Tyr Ser Thr Asp Ala
1   5

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Ala Gly Arg Cys Ile Ala Glu Val Ala
1   5

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Ala Arg Lys Tyr Gln Ser Asp Phe Ala
1   5

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<400> 525

Ala Ala Leu Gly Asn Val Val Arg Ala
1 5

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<400> 526

Ala Val Ala Ser Asn Val Val Lys Ala
1 5

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<400> 527

Ala Leu Ala Gly Asn Ala Val Lys Ala
1 5

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Ala Pro Ala Ser Asn Val Ala Arg Ala
1 5

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<400> 529

Ala Tyr Gly His Pro Ile Val Ile Ala
1   5

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<400> 530

Ala Leu Trp Leu Asn Leu Val Lys Ala
1   5

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Ala Leu Ser Val Asn Leu Thr Lys Ala
1   5

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<400> 532

Ala Pro Leu Arg Asn Ser Thr Lys Ala
1   5

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Ala Leu Tyr His Pro Asn Lys Val Ala
1   5

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<400> 534

Ala Arg Arg Tyr Gln Ser Asp Leu Ala
1   5

<210> 535
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<400> 535

Ala Ala Lys Ala Met Lys Leu Gly Ala
1   5

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<400> 536

Ala Ala Met Gly Asn Ala Ser Arg Ala
1   5

<210> 537
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Ala Pro Arg Ala Leu Lys Ile Thr Ala
1   5

<210> 538
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<400> 538

Ala Leu Ser Leu Asn Leu Val Lys Ala
1   5

<210> 539
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Ala Leu Val Ala Asn Val Thr Lys Ala
1   5

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Ala Lys Phe Val Pro Gly Thr Leu Ala
1   5

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Ala Ser Ile His Pro Asn Ala Ile Ala
1   5

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Ala Lys Met Lys Val Gly Val Ser Ala
1   5

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Ala Pro Val Gly Ala Lys Lys Gly Ala
1   5

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Ala Ser Tyr Glu Tyr Thr Val Lys Ala
1   5

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Ala Gln Glu Val Ser Val Asp Leu Ala
1   5

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Ala Gly Val Ile Met Glu Ser Glu Ala
1   5

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Ala Glu Gly Ala Cys Ile Glu Val Ala
1   5

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Ala Val Leu Phe Arg Asn Ile Pro Ala
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Ala Pro Lys Arg Ser Asn Ala Thr Ala
1   5

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Ala Leu Arg Gln Asn Leu Val Lys Ala
1 5

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<400> 551

Ala Leu Arg Ile Asn Asn Val Lys Ala
1 5

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<400> 552

Ala Pro Arg Lys Ala Gly Thr Val Ala
1 5

<210> 553
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<400> 553

Ala Gln Arg Leu Asn Asn Thr Lys Ala
1 5

<210> 554
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<220>
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<400> 554

Ala Pro Leu Ala Asp Leu Thr Lys Ala
1   5

<210> 555
<211> 9
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<220>
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<400> 555

Ala Pro Leu Ala Asp Thr Val Lys Ala
1   5

<210> 556
<211> 9
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<220>
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<400> 556

Ala Gly Arg Cys Ala Ile Glu Val Ala
1   5

<210> 557
<211> 9
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<400> 557

Ala Arg Lys Tyr Gln Pro Asp Leu Ala
1 5

<210> 558
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<220>
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<400> 558

Ala Arg Lys Ile Arg Leu Asp Ala Ala
1 5

<210> 559
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<400> 559

Ala Arg Arg Cys Ile Leu Ser Ala Ala
1 5

<210> 560
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<400> 560

Ala Glu Val Ser Ser Pro Asp Leu Ala
1 5

<210> 561
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<400> 561

Ala Gly Val Ile Met Gly Ser Glu Ala
1   5

<210> 562
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<220>
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<400> 562

Ala Val Lys Tyr Gln Ser Asp Leu Ala
1   5

<210> 563
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<400> 563

Ala Pro Arg Gln Ala Lys Val Ala Ala
1   5

<210> 564
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<400> 564

Ala Gln Met Thr Asn Gln Val Lys Ala
1   5

<210> 565
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<400> 565

Ala Gly Gln Ser Asn Gln Thr Arg Ala
1   5

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<400> 566

Ala Pro Val Arg Ala Ala Thr Lys Ala
1   5

<210> 567
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<400> 567

Ala Lys Thr Lys Ser Ala Asn Ser Ala
1   5

<210> 568
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<400> 568

Ala Phe Ser Ala His Pro Asn Lys Ala
1   5

<210> 569
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<220>
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<400> 569

Ala Arg Ile Lys Gly Gly Val Pro Ala
1   5

<210> 570
<211> 9
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<400> 570

Ala Pro Trp Phe Arg Asp Asn Ala Ala
1   5

<210> 571
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<220>
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<400> 571

Ala Pro Ser Lys Gly Lys Ser Asn Ala
1   5

<210> 572
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<220>
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<400> 572

Ala Pro Arg Thr Asn Asn Thr Val Ala
1 5

<210> 573
<211> 9
<212> PRT
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<220>
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<400> 573

Ala Pro Lys Thr Ser Lys Ser Ser Ala
1 5

<210> 574
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<213> Artificial Sequence

<220>
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<400> 574

Ala Arg Lys Tyr Gln Ala Ala Ser Ala
1 5

<210> 575
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 575

Ala Pro Lys Ala Asn Leu Ala Lys Ala
1 5

<210> 576
<211> 9
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<400> 576

Ala Gly Val Ile Met Gly Pro Glu Ala
1 5

<210> 577
<211> 9
<212> PRT
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<220>
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<400> 577

Ala Ser Tyr Gly Ile Arg Leu Lys Ala
1 5

<210> 578
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<220>
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<400> 578

Ala Pro Arg Thr Gly Ala Thr Lys Ala
1 5

<210> 579
<211> 9

<212> PRT
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<220>
<223> Artificial peptide sequence

<400> 579

Ala Ala Arg Gly Val Lys Val Thr Ala
1   5

<210> 580
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificial peptide sequence

<400> 580

Ala Gly Ser Ile Arg Ser Asp Met Ala
1   5

<210> 581
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<220>
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<400> 581

Ala Arg Ile Val Ile Leu Val Lys Ala
1   5

<210> 582
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<220>
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<400> 582

Ala Leu Leu Arg Ile Pro Thr Lys Ala
1 5

<210> 583
<211> 9
<212> PRT
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<400> 583

Ala Ala Trp Gly Val Lys Val Thr Ala
1 5

<210> 584
<211> 9
<212> PRT
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<220>
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<400> 584

Ala Pro Thr Lys Lys Thr Ala Val Ala
1 5

<210> 585
<211> 9
<212> PRT
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<400> 585

Ala Ile Met Leu Asn Gln Val Lys Ala
1 5

<210> 586
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<400> 586

Ala Pro Gly Leu Asn Tyr Val Lys Ala
1   5

<210> 587
<211> 9
<212> PRT
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<220>
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<400> 587

Ala Arg Lys Leu His Ser Gly Pro Ala
1   5

<210> 588
<211> 9
<212> PRT
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<220>
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<400> 588

Ala Lys Trp Lys Ser Gly Ala Ser Ala
1   5

<210> 589
<211> 9
<212> PRT
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<400> 589

Ala Trp Lys Ala Gln Lys Thr Ser Ala
1   5

<210> 590
<211> 9
<212> PRT
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<220>
<223> Artificial peptide sequence

<400> 590

Ala Pro Arg Thr Lys Gly Thr Ala Ala
1 5

<210> 591
<211> 9
<212> PRT
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<220>
<223> Artificial peptide sequence

<400> 591

Ala Pro Arg His Ser Lys Val Thr Ala
1 5

<210> 592
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Artificial peptide sequence

<400> 592

Ala Gly Thr Ala Asn Val Thr Lys Ala
1 5

<210> 593
<211> 9
<212> PRT
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<220>

<223> Artificial peptide sequence

<400> 593

Ala Leu Leu Gly Asn Met Thr Lys Ala
1 5

<210> 594
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 594

Ala Arg Lys Val His Ile Glu Ile Ala
1 5

<210> 595
<211> 9
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<400> 595

Ala Glu Val Ser Cys Gly Pro Pro Ala
1 5

<210> 596
<211> 9
<212> PRT
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<220>
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<400> 596

Ala Lys Ala Lys Ala Gly Val Thr Ala
1 5

<210> 597
<211> 9
<212> PRT
<213> Artificial Sequence

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<400> 597

Ala Leu Ile Leu Asn Ala Thr Lys Ala
1   5

<210> 598
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<400> 598

Ala Arg Ser Val Asn Leu Thr Lys Ala
1   5

<210> 599
<211> 9
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<213> Artificial Sequence

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<400> 599

Ala Ser Tyr Glu Tyr Gly Ala Lys Ala
1   5

<210> 600
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<400> 600

Ala Leu Lys Tyr Arg Gly Pro Pro Ala
1 5

<210> 601
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<400> 601

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

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    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
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Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
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<210> 602

<211> 518
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<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 602

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
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Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

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Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Ser Asp Leu Ala
        355                 360                 365
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Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
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<210> 603
<211> 518
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<220>
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       comprising artificial peptide sequence

<400> 603

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Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
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Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Thr Asn Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
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385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 604
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 604

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Lys Tyr His Gly Pro Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 605
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 605

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Gly Asp Met Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 606
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 606

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65   70   75   80

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Phe His Ser Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 607
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 607

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys His His Gly Leu Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

```
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  608
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  608

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Thr Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 609
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 609

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Met His Met Pro Asp Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 610
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 610

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Lys Lys Ile Val Gln Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  611
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  611

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Gly Lys Lys Thr Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 612
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 612

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gly Val Lys Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 613
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 613

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Lys Ser Lys Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 614
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 614

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Lys Gly Ala Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 615
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 615

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Gly Arg Lys Ala Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 616
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 616

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Ile His Leu Asp Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 617
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 617

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Tyr His Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  618
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  618

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Trp His Asp Thr Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 619
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 619

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Val Ala Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 620
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 620

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Gly Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  621
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  621

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Asn Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 622
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 622

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Arg Tyr His Gly Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 623
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 623

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Tyr Gly His Pro Asn Val Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 624
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 624

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Phe Thr Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 625
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 625

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val Gln Val Gly Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

```
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 626
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 626

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Arg Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 627
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 627

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Ile Lys Thr Gly Val Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 628
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 628

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Trp His Asn Ser Tyr Pro His Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 629
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 629

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Val Asn Leu Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 630
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 630

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ser Asn Leu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 631
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 631

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Phe His Thr Glu Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 632
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 632

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Phe Ile Leu Asp Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  633
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  633

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Lys Gln Asn Gln Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 634
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 634

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Arg Ser Asn Lys Val Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 635
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 635

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Arg Trp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 636
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 636

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Trp Gln Gln Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 637
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 637

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Lys Asn Gly Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515


<210>  638
<211>  518
<212>  PRT
```

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 638

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Leu Lys Asn Ala Val Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 639
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 639

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Ile Asn His Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 640
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 640

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val Leu Ser Asn Arg Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  641
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  641

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Asn Thr Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 642
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 642

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Arg Trp His Gly Asp Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 643
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 643

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Arg Asn Ala Asn Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 644
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 644

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Thr Asn Leu Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 645
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 645

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Leu Gln Val Gly Ser Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 646
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 646

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Gly Ala Tyr Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  647
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  647

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Met Ala Asn Leu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 648
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 648

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Thr Val Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 649
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 649

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Val Thr Lys Lys Ala Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 650
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 650

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Met Pro Asn Ser Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 651
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 651

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Gln Ser Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 652

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 652

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Asn Thr Val Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 653
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 653

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly His Leu Ser Asn His Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 654
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 654

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Met Ser Asn Arg Ala Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 655
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 655

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Leu Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 656
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 656

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro His Ser Asn Ser Ser Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

```
Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  657
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  657

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
```

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Leu Gly Asn Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

```
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 658
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 658

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Arg Gly Asp Met Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 659
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 659

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Ile Arg Leu Lys Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 660
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 660

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val Tyr Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  661
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  661

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Trp Lys Val His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 662
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 662

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ser Ala Lys Pro Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 663
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 663

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
```

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Asn Leu Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 664
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 664

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gly Ser Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 665
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 665

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Leu His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 666
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 666

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Arg Ile Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 667
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 667

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Trp Gln Ser His Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  668
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  668

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Val His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 669
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 669

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Arg Cys Ile Leu Arg Trp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 670
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 670

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Thr Lys Ser Gly Ile Asn Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  671
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  671

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Ile Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 672
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 672

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Leu Asn Leu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 673
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 673

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
```

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Gly Asn Met Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 674
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 674

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Tyr His Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 675
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 675

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Ser Asn Leu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 676
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 676

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Arg His Lys Ser Asn Asn Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 677
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 677

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Ser Asn Ala Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 678
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 678

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Phe Ser Asn Ser Ser Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 679
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 679

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Gly Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 680
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 680

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Ser Asn Ser Ser Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 681
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 681

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Lys Tyr Gln Ser Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 682
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 682

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  683
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  683

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Thr Gln Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 684
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 684

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Ile Ala Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 685
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 685

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Phe His Ala Met Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 686
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 686

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Arg Ser Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 687
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 687

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Tyr Ser Pro Asn Ser Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 688
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 688

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Lys Val His Ile Glu Val Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 689
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 689

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Ser Pro Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  690
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  690

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Glu Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 691
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 691

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Arg Met Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 692
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 692

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala His Lys Val Lys Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 693
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 693

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Cys Lys His His Gly Leu Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 694
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 694

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Leu Ser Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 695
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 695

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Asn Arg Thr Ser Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 696
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 696

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Arg Cys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  697
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  697

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Glu Asp Ser Phe Asp Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 698
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 698

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Ser Ile Met Gly Leu Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 699
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 699

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Thr Asn Leu Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 700
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 700

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Thr Ser Gly Asn Ser Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 701
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 701

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Phe Pro Val Gly Ser Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 702

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 702

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Val Thr Lys Ala Ala Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 703
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 703

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe His Ser Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 704
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 704

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala His Lys Ala Leu Val His Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 705
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 705

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Thr Asn Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 706
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 706

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Lys Lys Ile Val Gln Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

```
Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  707
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  707

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
```

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Asp Asn Arg Thr Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 708
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 708

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Val Asn Lys Thr Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 709
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 709

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Met Ser Asn Lys Ile Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 710
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 710

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Phe Thr Asn Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  711
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  711

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Asn Ile Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 712
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 712

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe Ala Ser Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 713
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 713

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gln Ser Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 714
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 714

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Trp Arg Tyr His Gly Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 715
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 715

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro His Lys Ala Thr Lys Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 716
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 716

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Thr Asn Thr Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 717
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 717

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Gly Asn Thr Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  718
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  718

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Asp Asn Arg Leu Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 719
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 719

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Ser Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515


<210>  720
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  720

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ile Asn Val Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  721
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  721

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Lys Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 722
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 722

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65   70   75   80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85   90   95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100   105   110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115   120   125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ile Ser Gly Lys Asn Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 723
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 723

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Lys Ser Lys Ala Gly Gln Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 724
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 724

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Lys Ile His Leu Asp Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 725
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 725

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly His Thr Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

```
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 726
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 726

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Phe Thr Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 727
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 727

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Thr Asn Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 728
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 728

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Ile His Leu Met Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 729
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 729

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Pro Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 730
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 730

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Thr Gly Asn Lys Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 731
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 731

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Val His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 732
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 732

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Glu Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  733
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  733

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Lys Leu Asn Asn Ser Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 734
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 734

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Ser Arg Ile Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 735
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 735

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Tyr Met Gly Asn His Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 736
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 736

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
               325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Ser Ile Met Gly Trp Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
               405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
               485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 737
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 737

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Val Ser Asn Ala Ala Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 738
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 738

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ala Lys Val Val Gln Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 739
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 739

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Gly Asn Thr Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  740
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  740

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Thr Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 741
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 741

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Thr Asp Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 742
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 742

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Gly Arg Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 743
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 743

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Lys His His Gly Pro Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 744
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 744

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Arg Ile Pro Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 745
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 745

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Ala Thr Asn Thr Val Arg Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 746
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 746

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Thr Gly Asn Ser Thr Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  747
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  747

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Met His Asn Gly Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 748
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 748

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Thr Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 749
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 749

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Met Lys Tyr His Gly Pro Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 750
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 750

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu His Leu Asn Ser Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 751
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 751

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Ile Asn Thr Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 752

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 752

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Ser Val Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 753
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 753

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Ala Lys Ala Gly Val Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 754
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 754

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Ser Asn Ala Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 755
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 755

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val Gln Ser Gly Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 756
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 756

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Lys Tyr Gln Gly Asp Met Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

```
Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  757
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  757

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
```

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Met Val Ile Pro Asn Val Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

```
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 758
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 758

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val Lys His Asn Ser Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 759
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 759

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys His Gln Ser Asp Leu Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 760
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 760

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Gln Pro Asn Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  761
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  761

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Phe Thr His Pro Asn Ser Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 762
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 762

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Ser Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 763
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 763

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Val Gly Val Lys Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 764
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 764

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Gly Val His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 765
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 765

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Lys Val His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 766
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 766

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Lys Asn Ala Ile Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 767
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 767

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Arg Asn Asn Met Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  768
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  768

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val Gln Ala Gly Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 769
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 769

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Phe Thr Asn Asn Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 770
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 770

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Val Thr Gln Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  771
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  771

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Lys Lys Gly Ala Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 772
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 772

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Lys Ser Thr Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 773
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 773

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Gly Cys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 774
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 774

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Asn Ile Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 775
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 775

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Gly Asn Gly Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 776
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 776

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Asn His Pro Asn Lys Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 777
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 777

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Asn Val His Pro Asn Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  778
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  778

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Lys Ala Lys Thr Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 779
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 779

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Gln Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 780
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 780

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Lys Tyr Lys Gln Gly Val Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 781
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 781

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Gly Met Ile Leu Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 782
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 782

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Val Pro Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  783
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  783

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Ile Gln Thr Met Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 784
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 784

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Arg Gly Asn Lys Ile Gln Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 785
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 785

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ile Ala Asn Asn Thr Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 786
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 786

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
               325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Phe His His Pro Asn Ala Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
               405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
               485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 787
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 787

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Lys Val His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 788
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 788

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gly Val Lys Thr Thr Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 789
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 789

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe Met Ser Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 790
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 790

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Gln Ile His Pro Asn Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  791
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  791

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Trp Arg Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 792
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 792

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Arg Gly Asp Met Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 793
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 793

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu His Asn Arg Asn Asn Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 794
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 794

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro His Ser Asn Arg Thr Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 795
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 795

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Arg Asn Val Val Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 796
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 796

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Ser Ser Lys Pro Asn Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  797
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  797

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Thr Lys Asn Gly Val Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 798
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 798

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Tyr His Ala Asn Ser Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 799
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 799

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Arg Thr Asn Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 800
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 800

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ile Val Ser Asn His Ser Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 801
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 801

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Phe Asp Asn His Ile Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 802

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 802

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Pro Asn Ala Ser Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 803
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 803

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Gly Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 804
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 804

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Arg Ala Ser Gly Pro Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 805
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 805

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Cys Glu Ser Tyr Phe Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 806
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 806

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Pro Gly Arg Lys Ser Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

```
Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  807
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  807

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
```

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Gly Asp Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 808
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 808

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ile Thr Asn Arg Ser Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 809
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 809

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ser Val Gly Lys Ala Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 810
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 810

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Cys Lys Met His Met Pro Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  811
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  811

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Asn Lys Lys Val Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 812
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 812

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ile Ala Asn Lys Val Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 813
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 813

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ser Gly Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 814
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 814

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ile Arg His Pro Asn Val Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 815
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 815

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Tyr Gln Asn Ile Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 816
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 816

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Phe Thr Ala Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 817
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 817

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys His Gln Gly Asp Met Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 818
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 818

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Arg Ile Leu Leu Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 819
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 819

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Gly Ala His Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 820
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 820

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Tyr Ser Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  821
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  821

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Thr Asn Arg Ile Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 822
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 822

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Pro His Ala Lys Lys Asn Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 823
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 823

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe Leu Ser Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 824
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 824

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Phe Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 825
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 825

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Leu Arg Asn Thr Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

```
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 826
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 826

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Met His Met Leu Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 827
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 827

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Val Leu Asn Ser Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 828
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 828

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Ser Arg Asn Ser Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 829
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 829

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Ser Asn Asn Thr Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 830
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 830

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Val Leu Arg Asn Ser Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 831
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 831

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 832
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 832

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Ile His Pro Asn Ser Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  833
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  833

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Tyr Ile His Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 834
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 834

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Ile Leu Leu Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 835
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 835

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Asn Asn Asn Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 836
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 836

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
               325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Val Ala Asn Ala Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
               405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
               485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 837
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 837

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Asn Thr Val Asn Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 838
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 838

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Ile Ser Thr Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 839
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 839

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Ser Arg Lys Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 840
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 840

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Ala Lys Gly Gly Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 841
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 841

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Arg Gln Lys Ser Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 842
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 842

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Ser Lys Leu Gly Val Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 843
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 843

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gly Thr Gly Lys Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 844
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 844

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Val Ala Asp Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 845
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 845

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Ile Thr Asn Ala Ser Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 846
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 846

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Gln Thr Thr Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 847
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 847

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Asn Ala Asn Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 848
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 848

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Pro Val Ser Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 849
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 849

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gly Asn Glu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 850
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 850

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Trp Asp Glu Cys Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 851
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 851

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Trp Gln Gln Phe Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 852

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 852

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Leu Thr Asn Thr Val Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 853
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 853

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Leu Ala Asn Ala Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 854
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 854

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Ser Gly Asn Lys Val Asn Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 855
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 855

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Asn Asn Ser Ser Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 856
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 856

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Phe Ser His Pro Asn Met Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

```
Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  857
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  857

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
```

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Met Thr Asn Lys Val Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

```
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  858
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  858

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe Gln Val Gly Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 859
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 859

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Tyr Glu Phe Tyr Phe Lys Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 860
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 860

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ala Ser Gly Ser Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  861
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  861

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Phe Ile Trp Met Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 862
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 862

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Gly Ser Asn Ser Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 863
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 863

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe Ile Val Leu Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 864
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 864

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly His Lys Ala Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 865
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 865

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ile Lys Ala Val Lys Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 866
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 866

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Met Ser Asn Arg Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 867
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 867

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Met Asn Lys Val Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  868
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  868

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Tyr Met Gly Asn Ser Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 869
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 869

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Val Ala Lys Pro Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 870
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 870

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Leu Gly Asn Ala Ser Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 871
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 871

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val Arg Val Gly Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 872
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 872

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Met Asn Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 873
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 873

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Leu Val Arg Asn Asp Thr Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 874
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 874

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Met Asn Ile Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 875
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 875

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Asn Lys Lys Leu Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 876
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 876

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Tyr Arg Gln Cys Tyr Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 877
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 877

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Leu Ala Thr Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 878
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 878

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Trp Val Lys Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 879
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 879

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Thr Asn Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 880
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 880

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Leu His Ile Gly Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 881
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 881

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val Ile Met Gly Arg Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 882
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 882

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Pro Asn Ser Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  883
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  883

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Gly Lys Lys Thr Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 884
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 884

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Val Ser Gly Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 885
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 885

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Val Asp Asn Lys Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 886
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 886

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
               325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Arg Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
               405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
               485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 887
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 887

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Gln Gly Asp Met Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 888
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 888

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Lys Phe His Ser Thr Asp Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 889
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 889

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Ser Arg Ile Cys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  890
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  890

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Ser Ser Asn Lys Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 891
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 891

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro His Val Asn Thr Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 892
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 892

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Arg Asn Lys Ala Ala Gln Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 893
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 893

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Leu Asn Glu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 894
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 894

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val His Met Asn Ser Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 895
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 895

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Phe Thr Asp Ser Thr Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 896
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 896

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Arg Tyr His Gly Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  897
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  897

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Gly Asn Glu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 898
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 898

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Val His Ile Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 899
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 899

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Met Ala Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 900
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 900

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Lys Ser Ser Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 901
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 901

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Val Ser Asn Thr Thr Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 902

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 902

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val Val Thr Asn His Val Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 903
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 903

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Trp Asp Glu Asp Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 904
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 904

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Thr Ala Asn Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 905
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 905

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Asp Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 906
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 906

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Arg Tyr His Gly Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

```
Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  907
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  907

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
```

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Val Arg Arg Gly Ala Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

```
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  908
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  908

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Val Lys Thr Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 909
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 909

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Lys Tyr His Gly Pro Pro Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 910
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 910

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Arg Asn Asn Ser Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  911
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  911

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Thr Gly Gly Lys Val Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 912
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 912

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Phe Pro Ala Gly Ser Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 913
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 913

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
```

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Gly Lys Ala Asn Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 914
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 914

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Tyr Thr Lys Lys Ser Val Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 915
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 915

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Thr Asn Val Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 916
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 916

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Gly Met Ile Leu Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 917
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 917

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Gly Thr Thr Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  918
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  918

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Ile His Phe Gly Cys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 919
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 919

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Thr Thr Asn Ser Ile Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 920
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 920

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Trp Gln Ile Phe Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 921
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 921

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Val Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 922
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 922

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65   70   75   80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85   90   95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100   105   110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115   120   125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Ala Thr Lys Asn Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 923
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 923

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
```

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Glu Cys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 924
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 924

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Ala Gly Asn Gln Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 925
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 925

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Met Val Ser Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

```
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 926
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 926

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Val Thr Asn His Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 927
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 927

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Ser Leu Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 928
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 928

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Asn Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 929
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 929

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Tyr Arg Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 930
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 930

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Leu Lys Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 931
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 931

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Trp Ser Arg Ser Pro Asn Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 932
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 932

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Met Ala Ser Asn Ser Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  933
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  933

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Met Ala Gln Asn Ser Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 934
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 934

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Gln Asn Asn His Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 935
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 935

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Lys Leu Lys Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 936
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 936

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Tyr His Ile Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 937
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 937

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Trp Arg Met Leu Leu Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 938
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 938

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Lys Ser Gly Ser Pro Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 939
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 939

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Met Ser Asn Lys Thr Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  940
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  940

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Leu Thr Asn Gln Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 941
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 941

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ala Gly Lys Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 942
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 942

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Thr Lys Asn Met Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 943
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 943

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Ile His Leu Asp Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 944
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 944

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Met Ser Asn Glu Ser Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 945
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 945

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Val Ser Asn Ala Ala Gln Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 946
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 946

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Val Gly Asn Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  947
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  947

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Val Asp Leu Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 948
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 948

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Asn Ser Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 949
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 949

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ile Gly Asn Thr Thr Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 950
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 950

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Tyr Ile Pro Gly Thr Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 951
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 951

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Pro Gly Val Gln Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 952

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 952

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160
```

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Thr Ser Ala Thr Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 953
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 953

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Phe Ala Asp Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 954
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 954

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro His Thr Lys Ser Lys Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 955
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 955

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Phe Arg Ser Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 956
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 956

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Arg Ser Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 957
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 957

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Tyr Glu Asp Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 958
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 958

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Ile Arg Leu Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 959
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 959

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Arg Cys Ile Leu Arg Val Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 960
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 960

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Thr Leu Asn Ala Ile Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  961
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  961

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Arg His Asn Asp Thr Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420   425   430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435   440   445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 962
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 962

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Leu Gln Ser Ala Gln Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 963
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 963

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Val Lys Gly Thr Ser Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 964
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 964

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ser Val Gln Lys Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 965
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 965

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gly Asn Asn Leu Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 966
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 966

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Tyr His Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 967
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 967

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Met Ala Arg Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  968
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  968

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Trp Tyr Asp Thr Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 969
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 969

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Phe His Ser Ile Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 970
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 970

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Lys Ile Asp Asn Arg Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  971
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  971

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ala His Pro Asn Ser Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 972
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 972

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Met Gly Arg Lys Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 973
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 973

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Lys Trp His Asp Thr Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 974
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 974

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Phe Tyr Glu Phe Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 975
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 975

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Asn Arg Lys Ser Ala Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

```
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 976
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 976

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Gly Asn Ser Ser Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 977
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 977

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Gln Gly Asn Thr Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  978
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  978

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Lys Ser Ile Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 979
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 979

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro His Leu Asn Leu Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 980
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 980

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gly Ala Lys Ser Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 981
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 981

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Ile Thr Lys Pro Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 982
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 982

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Arg Ser Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  983
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  983

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Ser Ser Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 984
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 984

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Trp Arg Gln Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 985
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 985

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Lys Met His Met Pro Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 986
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 986

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
               325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Val Gly Gly Lys Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
               405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
               485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 987
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 987

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gln Val Ser Lys Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 988
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 988

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Thr Thr Lys Val Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 989
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 989

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Ile His Asp Gly Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  990
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  990

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ile Leu Arg Asn Thr Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  991
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  991

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Ser Gly Lys Lys Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 992
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 992

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ser Ala Lys Pro Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 993
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 993

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Trp Arg Ile Phe Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 994
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 994

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Val Asn Asn Leu Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 995
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 995

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Asn Ser Asn Ile Ile Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 996
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 996

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Trp His Asp Ala Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  997
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  997

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe His Thr Glu Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 998
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 998

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Pro Val Gly Phe Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 999
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 999

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Arg Gly Val Lys Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1000
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1000

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Gly Lys Lys Ile Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 1001
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1001

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Ala Thr Asn Glu Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1002

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1002

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Gly Asn Glu Val Arg Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1003
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1003

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Gly Asn Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1004
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1004

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro His Ser Asn Arg Val Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1005
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1005

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ser Lys Asn Ala Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1006
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1006

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Ile Asn Lys Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

```
Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1007
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1007

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
```

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Ala Asn Thr Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

```
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1008
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1008

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125
```

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Cys Arg Asn Ser Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1009
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1009

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Arg Ser Ala Val Lys Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1010
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 1010

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Lys Lys His Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1011
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1011

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Thr Asn Thr Val Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1012
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1012

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Ile Ile Leu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450   455   460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465   470   475   480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485   490   495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 1013
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1013

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Met Ser Asn Arg Ala Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1014
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1014

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Val Asn Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1015
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1015

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Ser Lys Lys Ala Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1016
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1016

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Lys Phe Ile Ile Gly Ser Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1017
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1017

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Thr Asn Arg Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1018
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1018

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Ala Pro Asn Lys Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1019
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1019

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Val Lys Leu Gly Ala Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1020
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1020

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Val Ser Val Pro Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1021
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1021

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Phe Ile Gly Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1022
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1022

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Val Ser Tyr Ser Thr Asp Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1023
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1023

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
```

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ile Ala Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1024
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1024

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Ser Asp Phe Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1025
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1025

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Leu Gly Asn Val Val Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1026
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1026

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Ala Ser Asn Val Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1027
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1027

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Ala Gly Asn Ala Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1028
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1028

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ala Ser Asn Val Ala Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1029
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1029

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Tyr Gly His Pro Ile Val Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 1030
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1030

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Leu Trp Leu Asn Leu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1031
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1031

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Ser Val Asn Leu Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1032
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1032

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Arg Asn Ser Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1033
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1033

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Tyr His Pro Asn Lys Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1034
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1034

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Arg Tyr Gln Ser Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1035
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1035

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Lys Ala Met Lys Leu Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1036
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1036

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Met Gly Asn Ala Ser Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 1037
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1037

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Ala Leu Lys Ile Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1038
<211> 518
<212> PRT

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1038

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Ser Leu Asn Leu Val Lys Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1039
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1039

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Val Ala Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1040
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1040

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Phe Val Pro Gly Thr Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1041
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1041

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
```

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Ile His Pro Asn Ala Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1042
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1042

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Met Lys Val Gly Val Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1043
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1043

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Val Gly Ala Lys Lys Gly Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 1044
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1044

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Tyr Glu Tyr Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1045
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1045

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Glu Val Ser Val Asp Leu Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1046
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1046

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val Ile Met Glu Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1047
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1047

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Gly Ala Cys Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1048
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1048

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Leu Phe Arg Asn Ile Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1049
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1049

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Arg Ser Asn Ala Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1050
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1050

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320


Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335


Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350


Gln Met Ala Thr Asn Asn Gln Ala Leu Arg Gln Asn Leu Val Lys Ala
        355                 360                 365


Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380


Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 1051
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1051

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr

```
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Arg Ile Asn Asn Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1052

<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1052

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Lys Ala Gly Thr Val Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1053
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1053

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Arg Leu Asn Asn Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
```

385 390 395 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1054
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1054

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Asp Leu Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1055
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1055

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
```

```
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Leu Ala Asp Thr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1056
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1056

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Arg Cys Ala Ile Glu Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1057
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1057

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp

```
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Pro Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
```

500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1058
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1058

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Ile Arg Leu Asp Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1059
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1059

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Arg Cys Ile Leu Ser Ala Ala
```

```
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1060
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein

comprising artificial peptide sequence

<400> 1060

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Val Ser Ser Pro Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1061
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1061

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
```

```
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val Ile Met Gly Ser Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1062
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1062

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Val Lys Tyr Gln Ser Asp Leu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1063
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1063

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val

```
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Gln Ala Lys Val Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
```

```
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1064
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1064

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300
```

```
Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gln Met Thr Asn Gln Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1065
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1065

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
```

```
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Gln Ser Asn Gln Thr Arg Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1066
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1066

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

```
Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Val Arg Ala Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1067
<211> 518
<212> PRT
<213> Artificial Sequence

<220>

<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1067

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175


Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
```

```
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Thr Lys Ser Ala Asn Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1068
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1068

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15
```

```
Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Phe Ser Ala His Pro Asn Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415
```

```
Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1069
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1069

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
```

```
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Ile Lys Gly Gly Val Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
```

```
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1070
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1070

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270
```

```
Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Trp Phe Arg Asp Asn Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

```
Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1071
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1071

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95
```

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
```

```
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Ser Lys Gly Lys Ser Asn Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500   505   510

Tyr Leu Thr Arg Pro Leu
        515

<210> 1072
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1072

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1   5   10   15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20   25   30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35   40   45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50   55   60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65   70   75   80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85   90   95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100   105   110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115   120   125

```
Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Asn Asn Thr Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1073
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1073

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
```

```
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Thr Ser Lys Ser Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1074
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1074

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Tyr Gln Ala Ala Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380
```

```
Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400


Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1075
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1075

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
```

```
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Lys Ala Asn Leu Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
```

405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1076
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1076

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240
```

```
Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Val Ile Met Gly Pro Glu Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1077
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1077

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
```

```
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Tyr Gly Ile Arg Leu Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1078
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1078

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

```
Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Gly Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495
```

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1079
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1079

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys

```
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Arg Gly Val Lys Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
```

515

<210> 1080
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1080

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350
```

```
Gln Met Ala Thr Asn Asn Gln Ala Gly Ser Ile Arg Ser Asp Met Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1081
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1081

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Ile Val Ile Leu Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
```

```
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1082
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400> 1082

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205
```

```
Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Arg Ile Pro Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
405 410 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
420 425 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1083
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1083

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
```

```
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ala Trp Gly Val Lys Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

```
Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1084
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1084

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60
```

```
Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Thr Lys Lys Thr Ala Val Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460
```

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1085
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1085

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr

```
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ile Met Leu Asn Gln Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
```

485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1086
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1086

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320
```

```
Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
               325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Gly Leu Asn Tyr Val Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
               405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
               485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 1087
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1087

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
```

```
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Leu His Ser Gly Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515


<210>  1088
<211>  518
<212>  PRT
```

<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1088

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145 150 155 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
165 170 175

```
Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Trp Lys Ser Gly Ala Ser Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1089
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1089

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
```

```
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Trp Lys Ala Gln Lys Thr Ser Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1090
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1090

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30
```

```
Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg Thr Lys Gly Thr Ala Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430
```

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
435 440 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
450 455 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465 470 475 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1091
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1091

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln

```
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Pro Arg His Ser Lys Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
```

```
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1092
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1092

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285
```

```
Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Gly Thr Ala Asn Val Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
```

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
485 490 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
500 505 510

Tyr Leu Thr Arg Pro Leu
515

<210> 1093
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1093

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

```
Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
```

```
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Leu Gly Asn Met Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510
```

Tyr Leu Thr Arg Pro Leu
515

<210> 1094
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1094

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1 5 10 15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
20 25 30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
100 105 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
115 120 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
130 135 140

```
Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335
```

```
Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Lys Val His Ile Glu Ile Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1095
<211> 518

<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1095

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30


Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45


Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60


Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80


Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95


Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110


Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125


Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140


Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160


Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
```

```
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Glu Val Ser Cys Gly Pro Pro Ala
        355                 360                 365
```

```
Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1096
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1096

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                  10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190
```

```
Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Lys Ala Lys Ala Gly Val Thr Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400
```

```
Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415


Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430


Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445


Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460


Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480


Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495


Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510


Tyr Leu Thr Arg Pro Leu
        515


<210>  1097
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1097

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15


Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
```

```
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220
```

```
Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Ile Leu Asn Ala Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
```

```
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515


<210>  1098
<211>  518
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Dependoparvovirus adeno associated virus 5 capsid protein
       comprising artificial peptide sequence

<400>  1098

Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45
```

```
Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255
```

```
Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Arg Ser Val Asn Leu Thr Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445
```

```
Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
                485                 490                 495

Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
            500                 505                 510

Tyr Leu Thr Arg Pro Leu
        515
```

<210> 1099
<211> 518
<212> PRT
<213> Artificial Sequence

<220>
<223> Dependoparvovirus adeno associated virus 5 capsid protein comprising artificial peptide sequence

<400> 1099

```
Met Gly Asp Arg Val Val Thr Lys Ser Thr Arg Thr Trp Val Leu Pro
1               5                   10                  15

Ser Tyr Asn Asn His Gln Tyr Arg Glu Ile Lys Ser Gly Ser Val Asp
            20                  25                  30

Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
        35                  40                  45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
    50                  55                  60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65                  70                  75                  80
```

```
Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
                85                  90                  95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
            100                 105                 110

Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
        115                 120                 125

Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
    130                 135                 140

Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
145                 150                 155                 160

Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
                165                 170                 175

Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
        195                 200                 205

Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
    210                 215                 220

Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
                245                 250                 255

Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
```

```
        275                 280                 285

Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
    290                 295                 300

Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
                325                 330                 335

Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Ser Tyr Glu Tyr Gly Ala Lys Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
    370                 375                 380

Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480
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Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
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Pro Asp Ser Thr Gly Glu Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg
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Tyr Leu Thr Arg Pro Leu
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Gly Ser Asn Ala Asn Ala Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr
35 40 45

Phe Asp Phe Asn Arg Phe His Ser His Trp Ser Pro Arg Asp Trp Gln
50 55 60

Arg Leu Ile Asn Asn Tyr Trp Gly Phe Arg Pro Arg Ser Leu Arg Val
65 70 75 80

Lys Ile Phe Asn Ile Gln Val Lys Glu Val Thr Val Gln Asp Ser Thr
85 90 95

Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp
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Asp Asp Tyr Gln Leu Pro Tyr Val Val Gly Asn Gly Thr Glu Gly Cys
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Leu Pro Ala Phe Pro Pro Gln Val Phe Thr Leu Pro Gln Tyr Gly Tyr
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Ala Thr Leu Asn Arg Asp Asn Thr Glu Asn Pro Thr Glu Arg Ser Ser
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Phe Phe Cys Leu Glu Tyr Phe Pro Ser Lys Met Leu Arg Thr Gly Asn
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Asn Phe Glu Phe Thr Tyr Asn Phe Glu Glu Val Pro Phe His Ser Ser
            180                 185                 190

Phe Ala Pro Ser Gln Asn Leu Phe Lys Leu Ala Asn Pro Leu Val Asp
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Gln Tyr Leu Tyr Arg Phe Val Ser Thr Asn Asn Ala Pro Leu Thr Asn
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Thr Val Lys Ala Thr Gly Gly Val Gln Phe Asn Lys Asn Leu Ala Gly
225                 230                 235                 240

Arg Tyr Ala Asn Thr Tyr Lys Asn Trp Phe Pro Gly Pro Met Gly Arg
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Thr Gln Gly Trp Asn Leu Gly Ser Gly Val Asn Arg Ala Ser Val Ser
            260                 265                 270

Ala Phe Ala Thr Thr Asn Arg Met Glu Leu Glu Gly Ala Ser Tyr Gln
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Val Pro Pro Gln Pro Asn Gly Met Thr Asn Asn Leu Gln Gly Ser Asn
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Thr Tyr Ala Leu Glu Asn Thr Met Ile Phe Asn Ser Gln Pro Ala Asn
305                 310                 315                 320

Pro Gly Thr Thr Ala Thr Tyr Leu Glu Gly Asn Met Leu Ile Thr Ser
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Glu Ser Glu Thr Gln Pro Val Asn Arg Val Ala Tyr Asn Val Gly Gly
            340                 345                 350

Gln Met Ala Thr Asn Asn Gln Ala Leu Lys Tyr Arg Gly Pro Pro Ala
        355                 360                 365

Ser Ser Thr Thr Ala Pro Ala Thr Gly Thr Tyr Asn Leu Gln Glu Ile
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Val Pro Gly Ser Val Trp Met Glu Arg Asp Val Tyr Leu Gln Gly Pro
385                 390                 395                 400

Ile Trp Ala Lys Ile Pro Glu Thr Gly Ala His Phe His Pro Ser Pro
                405                 410                 415

Ala Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Met Met Leu Ile
            420                 425                 430

Lys Asn Thr Pro Val Pro Gly Asn Ile Thr Ser Phe Ser Asp Val Pro
        435                 440                 445

Val Ser Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Thr Val Glu
    450                 455                 460

Met Glu Trp Glu Leu Lys Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu
465                 470                 475                 480

Ile Gln Tyr Thr Asn Asn Tyr Asn Asp Pro Gln Phe Val Asp Phe Ala
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Tyr Leu Thr Arg Pro Leu
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