

SEQUENCE LISTING

<110> The Trustees of The University of Pennsylvania

<120> A Method of Detecting and/or Identifying Adeno-Associated Virus (AAV) Sequences and Isolating Novel Sequences Identified Thereby

<130> SP6203D

<150> US 60/350,607

<151> 2001-11-13

<150> US 60/341,117

<151> 2001-12-17

<150> US 60/377,066

<151> 2002-05-01

<150> US 60/386,675

<151> 2002-06-05

<160> 120

<170> PatentIn version 3.1

<210> 1

<211> 4721

<212> DNA

<213> adeno-associated virus serotype 7

<400> 1

```

ttggccactc cctctatgcg cgctcgctcg ctcggtgggg cctgaggacc aaaggtccgc      60
agacggcaga gctctgctct gccggcccca ccgagcgagc gagcgcgcat agagggagtg      120
gccaaactcca tcaactagggg taccgcgaag cgcctcccac gctgccggt cagcgctgac      180
gtaaatacag tcatagggga gtggtcctgt attagctgtc acgtgagtgc ttttgcgaca      240
ttttgcgaca ccacgtggcc atttgaggtg tatatggccg agtgagcgag caggatctcc      300
attttgaccg cgaaatttga acgagcagca gccatgccgg gtttctacga gatcgtgac      360
aaggtgccga gcgacctgga cgagcacctg ccgggcattt ctgactcgtt tgtgaactgg      420
gtggccgaga aggaatggga gctgcccccg gattctgaca tggatctgaa tctgatcgag      480
caggcaccct tgacctggc cgagaagctg cagcgcgact tcttgggtcca atggcgccgc      540
gtgagtaagg ccccgaggc cctgttcttt gtteagttcg agaaggcgga gagctacttc      600
caccttcacg ttctggtgga gaccacgggg gtcaagtcca tgggtgctagg ccgcttcctg      660
agtcagattc gggagaagct ggtccagacc atctaccgcg gggtcgagcc cagcgtgcc      720
aactggttcg cggtgaccaa gacgcgtaat ggcgcggcg gggggaacaa ggtggtggac      780
gagtgtaca tccccaacta cctcctgccc aagaccagc ccgagctgca gtgggcgtgg      840
actaacatgg aggagtatat aagcgcgtgt ttgaacctgg ccgaacgcaa acggctcgtg      900

```

gcgagcacc tgaccacgt cagccagacg caggagcaga acaaggagaa tctgaacccc 960
aattctgacg cgcccgatg caggtcaaaa acctccgcgc gctacatgga gctggtcggg 1020
tggtggtgg accggggcat cacctccgag aagcagtgga tccaggagga ccaggcctcg 1080
tacatctcct tcaacgccgc ctccaactcg cgggtccaga tcaaggccgc gctggacaat 1140
gccggcaaga tcatggcgct gaccaaattc gcgccgact acctggtggg gccttcgctg 1200
cccgccgaca ttaaaaccaa ccgcatctac cgcatcctgg agctgaacgg gtacgatcct 1260
gcctacgccg gctccgtctt tctcggtgg gccagaaaa agttcgggaa ggcgaacacc 1320
atctggctgt ttggggccgc caccaccggc aagaccaaca ttgcggaagc catcgccac 1380
gccgtgccct tctacggctg cgtcaactgg accaatgaga actttccctt caacgattgc 1440
gtcgacaaga tggatgctg gtgggaggag ggcaagatga cggccaaggt cgtggagtcc 1500
gccaaggcca ttctcgccgg cagcaagggt gcggtggacc aaaagtgcaa gtcgtccgcc 1560
cagatcgacc ccaccccggt gatcgtcacc tccaacacca acatgtgcgc cgtgattgac 1620
gggaacagca ccaccttcga gcaccagcag ccgttgccagg accggatggt caaatgtgaa 1680
ctcaccgccg gtctggagca cgactttggc aaggtgacga agcaggaagt caaagagttc 1740
ttccgctggg ccagtgtatc cgtgaccgag gtggcgcatg agttctacgt cagaaagggc 1800
ggagccagca aaagaccgc ccccgatgac gcgatataa gcgagcccaa gggggcctgc 1860
ccctcagtcg cggatccatc gacgtcagac gcggaaggag ctccggtgga ctttgccgac 1920
aggtacaaaa acaaatgttc tcgtcacgcg ggcatgattc agatgctgtt tccctgcaaa 1980
acgtgcgaga gaatgaatca gaatttcaac atttgcttca cacacggggt cagagactgt 2040
ttagagtgtt tccccggcgt gtcagaatct caaccggctg tcagaaaaaa gacgtatcgg 2100
aaactctgcg cgattcatca tctgctgggg cgggcgccc agattgcttg ctgggcctgc 2160
gacctggtca acgtggacct ggacgactgc gtttctgagc aataaatgac ttaaaccagg 2220
tatggctgcc gatggttata ttccagattg gctcgaggac aacctctctg agggcattcg 2280
cgagtgggtg gacctgaaac ctggagcccc gaaacccaaa gccaacccagc aaaagcagga 2340
caacggccgg ggtctggtgc ttctgggcta caagtacctc ggaccttca accgactcga 2400
caagggggag cccgtcaacg cggcgagcgc agcgccctc gagcacgaca aggcctacga 2460
ccagcagctc aaagcgggtg acaatccgta cctgcggtat aaccacgccg acgccagatt 2520
tcaggagcgt ctgcaagaag atacgtcatt tgggggcaac ctcgggcgag cagtcttcca 2580
ggccaagaag cgggttctcg aacctctcgg tctggttgag gaaggcgcta agacggctcc 2640
tgcaagaag agaccggtag agccgtcacc tcagcgttcc cccgactcct ccacgggcat 2700
cggcaagaaa ggccagcagc ccgcagaaa gagactcaat ttcggtcaga ctggcgactc 2760
agagtcagtc cccgacctc aacctctcgg agaacctcca gcagcgccct ctagtgtggg 2820

atctggtaca gtggctgcag gcggtggcgc accaatggca gacaataacg aaggtgccga 2880
 cggagtgggt aatgcctcag gaaattggca ttgcgattcc acatggctgg gcgacagagt 2940
 cattaccacc agcaccgaa cctgggccct gccacacctac aacaaccacc tctacaagca 3000
 aatctccagt gaaactgcag gtagtaccaa cgacaacacc tacttcggct acagcaccoc 3060
 ctgggggtat ttgacttta acagattcca ctgcacttc tcaccacgtg actggcagcg 3120
 actcatcaac aacaactggg gattccggcc caagaagctg cggttcaagc tcttcaacat 3180
 ccaggtcaag gaggtcacga cgaatgacgg cgttacgacc atcgctaata accttaccag 3240
 cacgattcag gtattctcgg actcgggaata ccagctgccg tacgtcctcg gctctgcgca 3300
 ccagggctgc ctgcctccgt tcccgggcga cgtcttcagt attcctcagt acgggtacct 3360
 gactctcaac aatggcagtc agtctgtggg agttcctcc ttctactgcc tggagtactt 3420
 cccctctcag atgctgagaa cgggcaacaa ctttgagttc agctacagct tcgaggacgt 3480
 gcctttccac agcagctacg cacacagcca gagcctggac cggctgatga atccctcat 3540
 cgaccagtac ttgtactacc tggccagaac acagagtaac ccaggaggca cagctggcaa 3600
 tcgggaactg cagttttacc agggcggggc ttcaactatg gccgaacaag ccaagaattg 3660
 gttacctgga ccttgcttcc ggcaacaaag agtctccaaa acgctggatc aaaacaacaa 3720
 cagcaacttt gcttggactg gtgccaccaa atatcacctg aacggcagaa actcgttgg 3780
 taatcccgcc gtcgccatgg caactcaca ggacgacgag gaccgctttt tcccatccag 3840
 cggagtccctg atttttggaa aaactggagc aactaacaaa actacattgg aaaatgtgtt 3900
 aatgacaaat gaagaagaaa ttcgtcctac taatcctgta gccacggaag aatacgggat 3960
 agtcagcagc aacttacaag cggctaatac tgcagcccag acacaagttg tcaacaacca 4020
 gggagcctta cctggcatgg tctggcagaa ccgggacgtg tacctgcagg gtcccatctg 4080
 ggccaagatt cctcacacgg atggcaactt tcaccogtct cctttgatgg gcggccttgg 4140
 acttaaacat ccgcctcctc agatcctgat caagaacact cccgttcccg ctaatcctcc 4200
 ggaggtgttt actcctgcc aagtttgcttc gttcatcaca cagtacagca ccggacaagt 4260
 cagcgtggaa atcgagtggg agctgcagaa ggaaaacagc aagcgtgga acccgagat 4320
 tcagtacacc tccaactttg aaaagcagac tgggtgtggac tttgccgttg acagccaggg 4380
 tgtttactct gagcctcgcc ctattggcac tcgttacctc accgtaatc tgtaattgca 4440
 tgttaatcaa taaaccggtt gattcgttcc agttgaactt tggctctctg tgcttcttat 4500
 cttatcggtt tccatagcaa ctggttacac attaactgct tgggtgcgct tcacgataag 4560
 aacactgacg tcaccgggtt acccctagtg atggagtgg ccaactccctc tatgcgcgct 4620
 cgctcgctcg gtggggcctg cggaccaaaag gtccgcagac ggagagctc tgetctgccg 4680
 gccccaccga gcgagcgagc gcgcatagag ggagtggcca a 4721

<210> 2
 <211> 737
 <212> PRT
 <213> capsid protein of adeno-associated virus serotype 7

<400> 2
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
 145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln
 165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro
 180 185 190

Pro Ala Ala Pro Ser Ser Val Gly Ser Gly Thr Val Ala Ala Gly Gly
 195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn
 210 215 220

Ala Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
245 250 255

Leu Tyr Lys Gln Ile Ser Ser Glu Thr Ala Gly Ser Thr Asn Asp Asn
260 265 270

Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
290 295 300

Asn Trp Gly Phe Arg Pro Lys Lys Leu Arg Phe Lys Leu Phe Asn Ile
305 310 315 320

Gln Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn
325 330 335

Asn Leu Thr Ser Thr Ile Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu
340 345 350

Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro
355 360 365

Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn
370 375 380

Gly Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
385 390 395 400

Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Ser
405 410 415

Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala
435 440 445

Arg Thr Gln Ser Asn Pro Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln
450 455 460

Phe Tyr Gln Gly Gly Pro Ser Thr Met Ala Glu Gln Ala Lys Asn Trp
465 470 475 480

Leu Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp
485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
500 505 510

Leu Asn Gly Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
515 520 525

His Lys Asp Asp Glu Asp Arg Phe Phe Pro Ser Ser Gly Val Leu Ile
530 535 540

Phe Gly Lys Thr Gly Ala Thr Asn Lys Thr Thr Leu Glu Asn Val Leu
545 550 555 560

Met Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu
565 570 575

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

Gln Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp
595 600 605

Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro
610 615 620

His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly
625 630 635 640

Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro
645 650 655

Ala Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Phe Ala Ser Phe Ile
660 665 670

Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu
675 680 685

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

Asn Phe Glu Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly
705 710 715 720

Val Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn
725 730 735

Leu

<210> 3
 <211> 623
 <212> PRT
 <213> rep protein of adeno-associated virus serotype 7
 <400> 3
 Met Pro Gly Phe Tyr Glu Ile Val Ile Lys Val Pro Ser Asp Leu Asp
 1 5 10 15
 Glu His Leu Pro Gly Ile Ser Asp Ser Phe Val Asn Trp Val Ala Glu
 20 25 30
 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile
 35 40 45
 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu
 50 55 60
 Val Gln Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val
 65 70 75 80
 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Leu His Val Leu Val Glu
 85 90 95
 Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile
 100 105 110
 Arg Glu Lys Leu Val Gln Thr Ile Tyr Arg Gly Val Glu Pro Thr Leu
 115 120 125
 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly
 130 135 140
 Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys
 145 150 155 160
 Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Glu Tyr Ile
 165 170 175
 Ser Ala Cys Leu Asn Leu Ala Glu Arg Lys Arg Leu Val Ala Gln His
 180 185 190
 Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Leu Asn
 195 200 205
 Pro Asn Ser Asp Ala Pro Val Ile Arg Ser Lys Thr Ser Ala Arg Tyr
 210 215 220
 Met Glu Leu Val Gly Trp Leu Val Asp Arg Gly Ile Thr Ser Glu Lys
 225 230 235 240

Gln Trp Ile Gln Glu Asp Gln Ala Ser Tyr Ile Ser Phe Asn Ala Ala
 245 250 255
 Ser Asn Ser Arg Ser Gln Ile Lys Ala Ala Leu Asp Asn Ala Gly Lys
 260 265 270
 Ile Met Ala Leu Thr Lys Ser Ala Pro Asp Tyr Leu Val Gly Pro Ser
 275 280 285
 Leu Pro Ala Asp Ile Lys Thr Asn Arg Ile Tyr Arg Ile Leu Glu Leu
 290 295 300
 Asn Gly Tyr Asp Pro Ala Tyr Ala Gly Ser Val Phe Leu Gly Trp Ala
 305 310 315 320
 Gln Lys Lys Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala
 325 330 335
 Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Ala Val Pro
 340 345 350
 Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp
 355 360 365
 Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala
 370 375 380
 Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg
 385 390 395 400
 Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val
 405 410 415
 Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser
 420 425 430
 Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe
 435 440 445
 Glu Leu Thr Arg Arg Leu Glu His Asp Phe Gly Lys Val Thr Lys Gln
 450 455 460
 Glu Val Lys Glu Phe Phe Arg Trp Ala Ser Asp His Val Thr Glu Val
 465 470 475 480
 Ala His Glu Phe Tyr Val Arg Lys Gly Gly Ala Ser Lys Arg Pro Ala
 485 490 495

Pro Asp Asp Ala Asp Ile Ser Glu Pro Lys Arg Ala Cys Pro Ser Val
500 505 510

Ala Asp Pro Ser Thr Ser Asp Ala Glu Gly Ala Pro Val Asp Phe Ala
515 520 525

Asp Arg Tyr Gln Asn Lys Cys Ser Arg His Ala Gly Met Ile Gln Met
530 535 540

Leu Phe Pro Cys Lys Thr Cys Glu Arg Met Asn Gln Asn Phe Asn Ile
545 550 555 560

Cys Phe Thr His Gly Val Arg Asp Cys Leu Glu Cys Phe Pro Gly Val
565 570 575

Ser Glu Ser Gln Pro Val Val Arg Lys Lys Thr Tyr Arg Lys Leu Cys
580 585 590

Ala Ile His His Leu Leu Gly Arg Ala Pro Glu Ile Ala Cys Ser Ala
595 600 605

Cys Asp Leu Val Asn Val Asp Leu Asp Asp Cys Val Ser Glu Gln
610 615 620

<210> 4
<211> 4393
<212> DNA
<213> adeno-associated virus serotype 8

<400> 4
cagagaggga gtggccaact ccatacactag gggtagcgcg aagcgccctcc cagctgccc 60
cgtcagcgct gacgtaaatt acgtcatagg ggagtgggtcc tgtattagct gtcacgtgag 120
tgctttttgcg gcatttttgcg acaccacgtg gccatttgag gtatatatgg ccgagtgagc 180
gagcaggatc tccattttga ccgcgaaatt tgaacgagca gcagccatgc cgggcttcta 240
cgagatcgty atcaaggtgc cgagcgacct ggacgagcac ctgccgggca tttctgactc 300
gtttgtgaac tgggtggccg agaaggaatg ggagctgccc ccggattctg acatggatcg 360
gaatctgatc gagcaggcac ccctgacctg ggccgagaag ctgcagcgcg acttcctggt 420
ccaatggcgc cgcgtgagta agggcccgga ggcctcttc tttgttcagt tcgagaaggg 480
cgagagctac tttcacctgc acgtttctggt cgagaccacg ggggtcaagt ccatggtgct 540
aggccgcttc ctgagtcaga ttcgggaaaa gcttggtcca gaccatctac ccgcggggtc 600
gagccccacc ttgcccaact ggttcgcggt gaccaaagac gcggtaatgg cgccggcggg 660
ggggaacaag gtggtggacg agtgctacat ccccaactac ctcttgccca agactcagcc 720
cgagctgcag tgggcgtgga ctaacatgga ggagtatata agcgcggtgct tgaacctggc 780

cgagcgcaaa cggctcgtgg cgcagcacct gaccacgctc agccagacgc aggagcagaa 840
 caaggagaat ctgaacccca attctgacgc gcccgatgac aggtcaaaaa cctccgcgcg 900
 ctatatggag ctggtcgggt ggctgggtga cgggggcac acctccgaga agcagtggat 960
 ccaggaggac caggcctcgt acatctcctt caacgccgc tccaactcgc ggtcccagat 1020
 caaggccgcg ctggacaatg ccggcaagat catggcgctg accaaatccg cgcgccgacta 1080
 cctgggtggg cctcgcctgc ccgcggacat taccagaac cgcctctacc gcatcctcgc 1140
 tctcaacggc tacgaccctg cctacgcgcg ctccgtcttt ctggcgtggg ctcaaaaaa 1200
 gttcgggaaa cgcaacacca tctggtgtt tggaccgcg accaccggca agaccaacat 1260
 tgcggaagcc atcgccacg ccgtgccctt ctacggctgc gtcaactgga ccaatgagaa 1320
 ctttcccttc aatgattgct tgcacaagat ggtgatctgg tgggaggagg gcaagatgac 1380
 ggccaaggct gtggagtccg ccaaggccat tctggcggc agcaaggctg gcgtggacca 1440
 aaagtgaag tcgtccgccc agatcgaccc caccgccgtg atcgtcacct ccaacaccaa 1500
 catgtgcgccc gtgattgacg ggaacagcac caccttcgag caccagcagc ctctccagga 1560
 ccggatgttt aagttcgaac tcaccgccg tctggagcac gactttggca aggtgacaaa 1620
 gcaggaagtc aaagagttct tccgctgggc cagtgtcac gtgaccgagg tggcgcatga 1680
 gttttacgtc agaaagggcg gagccagcaa aagaccgcg ccgatgacg cggataaaag 1740
 cgagcccaag cgggcctgcc cctcagtcgc ggtccatcg acgtcagacg cggaaggagc 1800
 tccggtggac tttgccgaca ggtacaaaa caaatgttct cgtcacgcgg gcatgcttca 1860
 gatgctgttt ccctgcaaaa cgtgcgagag aatgaatcag aatttcaaca tttgcttcac 1920
 acacggggct agagactgct cagagtgttt ccccgccgtg tcagaatctc aaccggctgt 1980
 cagaaagagg acgtatcgga aactctgtgc gattcatcat ctgctggggc gggctccga 2040
 gattgcttgc tcggcctgct atctgggtcaa cgtggacctg gatgactgtg tttctgagca 2100
 ataaatgact taaaccaggt atggctgccg atggttatct tccagattgg ctgaggaca 2160
 acctctctga gggcattcgc gagtgggtgg cgctgaaacc tggagccccg aagcccaag 2220
 ccaaccagca aaagcaggac gacggccggg gtctgggtgt tcctggctac aagtacctcg 2280
 gacccttcaa cggactcgac aagggggagc ccgtcaacgc ggcggacgca gcggccctcg 2340
 agcacgacaa ggcctacgac cagcagctgc aggcgggtga caatccgtac ctgcggtata 2400
 accacgccga cgcaggttt caggagcgtc tgcaagaaga tacgtctttt gggggcaacc 2460
 tcgggcgagc agtcttcag gccaaagaag gggttctcga acctctcggt ctggttgagg 2520
 aaggcgctaa gacggctcct ggaaagaaga gaccggtaga gccatcacc cagcgttctc 2580
 cagactcctc tacgggcatc ggcaagaag gccaacagcc cgccagaaaa agactcaatt 2640
 ttggtcagac tggcgactca gagtcagttc cagaccctca acctctcgga gaacctcag 2700

cagcgccctc tgggtgtggga cctaatacaa tggctgcagg cgggtggcgca ccaatggcag 2760
acaataacga aggcgcgcgac ggagtgggta gttoctcggg aaattggcat tgcgattcca 2820
catggctggg cgacagagtc atcaccacca gcaccogaac ctgggcccctg cccacctaca 2880
acaaccacct ctacaagcaa atctccaacg ggacatcggg aggagccacc aacgacaaca 2940
cctacttcgg ctacagcacc ccctgggggt attttgactt taacagattc cactgccact 3000
tttaccacg tgaactggcag cgactcatca acaacaactg gggattccgg cccaagagac 3060
tcagcttcaa gctcttcaac atccaggtoa aggaggtcac gcagaatgaa ggcaccaaga 3120
ccatcgccaa taacctcacc agcaccatcc aggtgtttac ggactcggag taccagctgc 3180
cgtacgttct cggtctctgc caccagggct gcctgcctcc gttcccggcg gacgtgttca 3240
tgattcccca gtacggctac ctaacactca acaacggtag tcaggccgtg ggacgctcct 3300
ccttctactg cctggaatac tttccttcgc agatgctgag aaccggcaac aacttccagt 3360
ttactttacac cttcgaggac gtgcctttcc acagcagcta cgcacacagc cagagcttg 3420
accggtgat gaatcctctg attgaccagt acctgtacta cttgtctcgg actcaaaaaa 3480
caggaggcac ggcaaatacg cagactctgg gcttcagcca aggtgggcct aatacaatgg 3540
ccaatcaggc aaagaactgg ctgccaggac cctgttaccg ccaacaacgc gtctcaacga 3600
caaccgggca aaacaacaat agcaactttg cctggactgc tgggaccaa taccatctga 3660
atggaagaaa ttcattggct aatcctggca tcgctatggc aacacacaaa gacgacgagg 3720
agcgtttttt tcccagtaac gggatcctga tttttggcaa acaaaatgct gccagagaca 3780
atgcggatta cagcgatgtc atgctcacca gcgaggaaga aatcaaaacc actaacctg 3840
tggctacaga ggaatacggc atcgtggcag ataacttgca gcagcaaac acggctcctc 3900
aaattggaac tgtcaacagc cagggggcct taccgggtat ggtctggcag aaccgggacg 3960
tgtacctgca gggtoctatc tgggccaaga ttcttcacac ggacggcaac ttccacctgt 4020
ctccgctgat gggcggtttt ggccgtgaaac atcctccgcc tcagatcctg atcaagaaca 4080
cgccgtgtacc tgcggatcct ccgaccacct tcaaccagtc aaagctgaac tctttcatca 4140
cgcaatacag caccggacag gtcagcgtgg aaattgaaatg ggagctgcag aaggaaaaca 4200
gcaagcgtg gaaccccgag atccagtaca cctccaacta ctacaaatct acaagtgtgg 4260
actttgctgt taatacagaa ggcgtgtact ctgaaccccg ccccatggc accggttacc 4320
tcacccgtaa tctgtaattg cctgttaatc aataaaccgg ttgattcgtt tcagttgaac 4380
tttggctctc gcg 4393

<210> 5
<211> 4385
<212> DNA
<213> adeno-associated virus serotype 9

<400> 5

cagagagggg	gtggccaact	ccatcactag	gggtaatcgc	gaagcgcctc	ccacgctgcc	60
gcgtcagcgc	tgacgtagat	tacgtcatag	gggagtggtc	ctgtattagc	tgtcacgtga	120
gtgcttttgc	gacattttgc	gacaccacat	ggccatttga	ggtatatatg	gccgagtgag	180
cgagcaggat	ctccattttg	accgcgaaat	ttgaacgagc	agcagccatg	ccgggcttct	240
acgagattgt	gatcaagggt	ccgagcgacc	tggacgagca	cctgccgggc	atttctgact	300
cttttgtgaa	ctgggtggcc	gagaaggaaat	gggagctgcc	cccggattct	gacatggatc	360
ggaatctgat	cgagcaggca	cccctgaccg	tggccgagaa	gctgcagcgc	gacttcctgg	420
tccaatggcg	ccgcgtgagt	aaggccccgg	aggccctctt	ctttgttcag	ttcgagaagg	480
gcgagagcta	ctttcacctg	cacgttcttg	tcgagaccac	gggggtcaag	tccatgggtc	540
taggcgcgtt	cctgagtcag	attcgggaga	agctggtcca	gaccatctac	cgcgggatcg	600
agccgacctt	gcccacttgg	ttcgcggtga	ccaagacgcg	taatggcgcc	ggcgggggga	660
acaagggtgt	ggacgagtgc	tacatcccca	actacctcct	gcccagact	cagcccagac	720
tgcagtgggc	gtggactaac	atggaggagt	atataagcgc	gtgcttgaac	ctggccgagc	780
gcaaacggct	cgtggcgag	cacctgacct	acgtcagcca	gacgcaggag	cagaacaagg	840
agaatctgaa	ccccatttct	gacgcgcccc	tgatcaggtc	aaaaacctcc	gcgcgtaca	900
tggagctggt	cgggtggctg	gtggaccggg	gcatcacctc	cgagaagcag	tggatccagg	960
aggaccaggc	ctcgtacatc	tccttcaacg	ccgcctccaa	ctcgcggtcc	cagatcaagg	1020
cgcgcgtgga	caatgccggc	aagatcatgg	cgctgaccaa	atccgcgcc	gactacctgg	1080
taggccttct	acttcgggtg	gacattacgc	agaaccgcat	ctaccgcac	ctgcagctca	1140
acggctacga	ccctgcctac	gocggctccg	tctttctcgg	ctgggcacaa	aagaagtctg	1200
ggaaacgcaa	caccatctgg	ctgtttgggc	cggccaccac	gggaaagacc	aacatcgag	1260
aagccattgc	ccacgcctg	cccttctacg	gctgcgtcaa	ctggaccaat	gagaactttc	1320
ccttcaacga	ttgcgtcgac	aagatggtga	tctggtggga	ggagggcaag	atgacggcca	1380
aggctcgtga	gtccgcgaag	gccattctcg	gcggcagcaa	ggtgcgcgtg	gaccaaagt	1440
gcaagtcgtc	cgccagatc	gacccactc	ccgtgatcgt	cacctccaac	accaacatgt	1500
gcgcctgat	tgacgggaac	agcaccacct	tcgagcacca	gcagcctctc	caggaccgga	1560
tgtttaagtt	cgaactcacc	cgcctctgg	agcacgactt	tggcaagggt	acaaagcagg	1620
aagtcaaaga	gttcttccgc	tgggccagtg	atcacgtgac	cgaggtggcg	catgagtttt	1680
acgtcagaaa	gggaggagcc	agcaaaagac	ccgccccga	tgacgcggat	aaaagcgagc	1740
ccaagcgggc	ctgcccctca	gtcgcggatc	catcgacgtc	agacgcggaa	ggagctccgg	1800
tggactttgc	cgacaggtac	caaaacaaat	gttctcgtca	cgcgggcatg	cttcagatgc	1860
tgcttccctg	caaaacgtgc	gagagaatga	atcagaattt	caacatttgc	ttcacacacg	1920

gggtcagaga ctgctcagag tgtttccccc gcgtgtcaga atctcaaccg gtcgtcagaa 1980
 agaggacgta tcggaaactc tgtgcgattc atcatctgct ggggcgggct cccgagattg 2040
 cttgactcggc ctgcgatctg gtcaacgtgg acctggatga ctgtgtttct gagcaataaa 2100
 tgacttaaac caggtatggc tgccgatggc tatcttccag attggctcga ggacaacctc 2160
 tctgagggca ttccgcgagt gtgggcgctg aaacctggag ccccggaagc caaagccaac 2220
 cagcaaaagc aggacgacgg cgggggtctg gtgcttctct gctacaagta cctcggaccc 2280
 ttcaacggac tcgacaaggg ggagcccgtc aacgcggcgg acgcagcggc cctcggacac 2340
 ggcaaggcct acgaccagca gctgcaggcg ggtgacaatc cgtacctgcg gtataaccac 2400
 gccgacgccg agtttcagga gcgtctgcaa gaagatacgt cttttggggg caacctcggg 2460
 cgagcagtct tccaggccaa gaagcgggtt ctggaacctc tcggtctggt tgaggaaggc 2520
 gctaagacgg ctccctggaa gaagagaccg gtagagccat caccacagcg ttctccagac 2580
 tcctctacgg gcatcggcaa gaaaggccaa cagcccgcca gaaaaagact caattttggt 2640
 cagactggcg actcagagtc agttccagac cctcaacctc tcggagaacc tccagcagcg 2700
 ccctctggtg tgggacctaa tacaatggct gcaggcgggt gcgcaccaat ggagacaat 2760
 aacgaaggcg ccgacggagt gggtaattcc tcgggaaatt ggcattgcca ttccacatgg 2820
 ctgggggaca gagtcatcac caccagcacc cgaacctggg cattgcccac ctacaacaac 2880
 cacctctaca agcaaatctc caatggaaca tcgggaggaa gcaccaacga caacacctac 2940
 tttggctaca gcaccccctg ggggtatttt gacttcaaca gattccactg ccacttctca 3000
 ccacgtgact ggcagcgact catcaacaac aactggggat tccggccaaa gagactcaac 3060
 ttcaagctgt tcaacatcca ggtcaaggag gttacgacga acgaaggcac caagaccatc 3120
 gccataaacc ttaccagcac cgtccaggtc ttacggact cggagtacca gctaccgtac 3180
 gtcttaggct ctgcccacca aggatgcctg ccacctttc ctgcagacgt cttcatgggt 3240
 cctcagtacg gctacctgac gctcaacaat ggaagtcaag cgttaggacg ttcttctttc 3300
 tactgtotgg aatacttccc ttctcagatg ctgagaaccg gcaacaactt tcagttcagc 3360
 tacactttcg aggacgtgcc ttccacagc agctacgcac acagccagag tctagatcga 3420
 ctgatgaacc cctcatcga ccagtaccta tactacctgg tcagaacaca gacaactgga 3480
 actgggggaa ctcaaaactt ggcattcagc caagcaggcc ctagctcaat ggccaatcag 3540
 gctagaaaact gggtaaccgg gccttgctac cgtcagcagc gcgtctccac aaccaccaac 3600
 caaaataaca acagcaactt tgcgtggacg ggagctgcta aattcaagct gaacgggaga 3660
 gactcgctaa tgaatcctgg cgtggctatg gcatcgaca aagacgacga ggaccgcttc 3720
 ttccatcaa gtggcggtct catatttggc aagcaaggag ccgggaacga tggagtogac 3780
 tacagccagg tgctgattac agatgaggaa gaaattaaag ccaccaaccc tgtagccaca 3840

gaggaatacag gagcagtggc catcaacaac caggccgcta acacgcaggc gcaaactgga 3900
 cttgtgcata accagggagt tattcctggg atgggtctggc agaaccggga cgtgtacctg 3960
 cagggcccta tttgggctaa aatacctcac acagatggca actttcaccg gtctcctctg 4020
 atgggtggat ttggactgaa acaccacct ccacagattc taattaaaaa tacaccagtg 4080
 ccggcagatc ctctctttac cttcaatcaa gccaaagctga actctttcat cagcagtag 4140
 agcacgggac aagtcagcgt ggaaatcgag tgggagctgc agaaagaaaa cagcaagcgc 4200
 tggaatccag agatccagta tacttcaaac tactacaaat ctacaaatgt ggactttgct 4260
 gtcaatacca aagggtgttta ctctgagcct cggccatttg gtactcgtta cctcaccgct 4320
 aatttgtaat tgcctgttaa tcaataaacc ggtaattcg tttcagttga actttggctc 4380
 ctgcg 4385

<210> 6
 <211> 4718
 <212> DNA
 <213> adeno-associated virus serotype 1

<400> 6
 ttgcccactc cctctctgag cgctcgctcg ctcggtgggg cctgcggacc aaaggtccgc 60
 agacggcaga gctctgctct gcgggcccc cagagcgagc gagcgcgag agagggagtg 120
 ggcaactcca tcaactaggg taatcgcgaa gcgcctcca cgctgccgag tcagcgctga 180
 cgtaaattac gtcactaggg agtggctcctg tattagctgt cagtgagtg cttttgagac 240
 attttgagac accacgtggc catttagggt atatatggc gagtgagcga gcaggatctc 300
 cattttgacc gcgaaatttg aacgagcagc agccatgccg ggcttctacg agatcgtagt 360
 caaggtgccg agcgacctgg acgagcacct gccgggcatt tctgactcgt ttgtgagctg 420
 ggtggccgag aaggaatggg agctgcccc ggattctgac atggatctga atctgattga 480
 gcaggcaccg ctgaccgtgg ccgagaagct gcagcgcgac ttcttggtcc aatggcgccg 540
 cgtgagtaag gccccggagg ccctcttctt tgttcagttc gagaagggcg agtcctactt 600
 ccacctccat attctggtgg agaccacggg ggtcaaatcc atgggtgctgg gccgcttct 660
 gagtcagatt agggacaagc tgggtcagac catctaccg gggatcgagc cgaccctgcc 720
 caactggttc gcggtgacca agacgcgtaa tggcgccgga ggggggaaca aggtggtgga 780
 cgagtgtac atccccaact acctcctgcc caagactcag cccgagctgc agtgggcgtg 840
 gactaacatg gaggagtata taagcgctg tttgaacctg gccgagcgca aacggctcgt 900
 ggcgagcac ctgaccacg tcagccagac ccaggagcag aacaaggaga atctgaacct 960
 caattctgac gcgcctgtca tccggtcaaa aacctccgag cgctacatgg agctggtcgg 1020
 gtggctggtg gaccggggca tcacctccga gaagcagtg atccaggagg accaggcctc 1080

gtacatctcc ttcaacgccg cttccaactc gcggtcccag atcaaggccg ctctggacaa 1140
tgccggcaag atcatggcgc tgaccaaato cgcgcccgac tacctggtag gccccgtcc 1200
gcccggggac attaaaacca accgcatcta ccgcatcctg gagctgaacg gctacgaacc 1260
tgctacgcc ggetccgtct ttctcggctg gggccagaaa aggttcggga agcgcaacac 1320
catctggctg tttggggccg ccaccacggg caagaccaac atcgcggaag ccacgccca 1380
cgccgtgccc ttctacggct ggcgtcaactg gaccaatgag aactttccct tcaatgattg 1440
cgctgacaag atggtgatct ggtgggagga gggcaagatg acggccaagg tcgtggagtc 1500
cgccaaggcc attctcggcg gcagcaagggt gcgcgtggac caaaagtga agtcgtccgc 1560
ccagatcgac cccacccccg tgatcgtcac ctccaacacc aacatgtgcg ccgtgattga 1620
cggaacagc accaccttcg agcaccagca gccgttgag gaccggatgt tcaaatttga 1680
actcaccgc cgtctggagc atgactttgg caagtgaca aagcaggaag tcaaagagtt 1740
cttcgctgg gcgcaggatc acgtgaccga ggtggcgcat gaggctctac tcagaaaggg 1800
tgagaccaac aaaagaccg ccccgatga cgcgataaa agcgagccca agcgggcctg 1860
cccctcagtc gcggtatccat cgacgtcaga cgcggaagga gctccggtg actttgcca 1920
caggtaccaa acaaatggt ctggtcacgc gggcatgctt cagatgctgt ttccctgcaa 1980
gacatgcgag agaataatc agaatttcaa catttgcttc acgcacggga cgagagactg 2040
ttcagagtgc ttccccggcg tgtcagaatc tcaaccggtc gtcagaaaga ggacgtatcg 2100
gaaactctgt gccattcatc atctgctggg gcgggctccc gagattgctt gctcggcctg 2160
cgatctggtc aacgtggacc tggatgactg tgtttctgag caataaatga cttaaaccag 2220
gtatggctgc cgatggttat cttccagatt ggctcgagga caacctctct gagggcattc 2280
gcgagtggtg ggaattgaaa cctggagccc cgaagcccaa agccaaccag caaaagcagg 2340
acgacggccg gggctctggg cttcctggct acaagtacct cggacccttc aacggactcg 2400
acaaggggga gcccgtcaac gcggcggacg cagcgccctt cgagcacgac aaggcctacg 2460
accagcagct caaagcgggt gacaatccgt acctgcggta taaccacgcc gacgccgagt 2520
ttcaggagcg tctgcaagaa gatacgtctt ttgggggcaa cctcggggga gcagtcttcc 2580
aggccaagaa gcgggttctc gaacctctcg gtctggttga ggaaggcgct aagacggctc 2640
ctggaaagaa acgtccggta gagcagtcgc cacaagagcc agactcctcc tcgggcatcg 2700
gcaagacagg ccagcagccc gctaaaaaga gactcaattt tggtcagact ggcgactcag 2760
agtcagtccc cgatccacaa cctctcggag aacctccagc aacccccgct gctgtgggac 2820
ctactacaat ggcttcaggc ggtggcgcac caatggcaga caataacgaa ggcgccgacg 2880
gagtggttaa tgcctcagga aattggcatt gcgattccac atggctgggc gacagagtca 2940
tcaccaccag caccgcacc tgggccttgc ccacctaaa taaccacctc tacaagcaaa 3000

tctccagtgc ttcaacgggg gccagcaacg acaaccacta cttcggctac agcaccacct	3060
gggggtatatt tgatttcaac agattccact gccacttttc accacgtgac tggcagcgac	3120
tcatacaaa caattgggga ttccggccca agagactcaa cttcaaaactc ttcaacatcc	3180
aagtcaagga ggtcacgacg aatgatggcg tcacaacccat cgctaataac cttaccagca	3240
cggttcaagt cttctcggac tcggagtacc agcttccgta cgtcctcggc tctgcgaccc	3300
agggtgcct ccctccgttc ccggcggacg tgttcatgat tccgcaatac ggctacctga	3360
cgctcaaaaa tggcagccaa gccgtgggac gttcatcctt ttactgcctg gaatatttcc	3420
cttctcagat gctgagaacg ggcaacaact ttaccttcag ctacaccttt gaggaagtgc	3480
ctttccacag cagctacgag cacagccaga gcctggaccg gctgatgaat cctctcatcg	3540
accaataacct gtattacctg aacagaactc aaaaacagtc cggaagtgcc caaaacaagg	3600
acttgcgtgt tagccgtggg tctccagctg gcatgtctgt tcagcccaaa aactggttac	3660
ctggaccctg ttatcggcag cagcgcgttt ctaaaacaaa aacagacaac aacaacagca	3720
attttacctg gactggtgct tcaaaatata acctcaatgg gcgtgaatcc atcatcaacc	3780
ctggcactgc tatggcctca caaaaagacg acgaagacaa gttctttccc atgagcggtg	3840
tcattgatttt tggaaaagag agcgccggag cttcaaacac tgcattggac aatgtcatga	3900
ttacagacga agaggaaatt aaagccacta accctgtggc caccgaaaga tttgggaccg	3960
tggcagtcaa tttccagagc agcagcacag acctgcgac cgagatgtg catgctatgg	4020
gagcattacc tggcatggtg tggcaagata gagacgtgta cctgcagggt cccatttggg	4080
ccaaaattcc tcacacagat ggacactttc acccgtctcc tcttatgggc ggctttggac	4140
tcaagaacct gcctcctcag atcctcatca aaaacacgcc tgttcctgcg aatcctccgg	4200
cggagttttc agctacaaag tttgcttcat tcatacccca ataactccaca ggacaagtga	4260
gtgtggaaat tgaatgggag ctgcagaaaag aaaacagcaa gcgctggaat cccgaagtgc	4320
agtacacatc caattatgca aaatctgcca acgttgattt tactgtggac aacaatggac	4380
tttatactga gcctcgcccc attggcaccg gttaccttac ccgtcccctg taattacgtg	4440
ttaatcaata aaccggttga ttcgtttcag ttgaactttg gtctcctgtc cttcttatct	4500
tatcggttac catggttata gcttacacat taactgcttg gttgcgcttc gcgataaaaag	4560
acttacgtca tcgggttacc cctagtgatg gagttgcca ctccctctct gcgcgctcgc	4620
tcgctcggtg gggcctgcgg accaaaggtc cgcagacggc agagctctgc tctgccggcc	4680
ccaccgagcg agcgagcgcg cagagaggga gtgggcaa	4718

<210> 7
 <211> 4675
 <212> DNA
 <213> adeno-associated virus serotype 2

<400> 7
 ttggccactc cctctctgcg cgctcgctcg ctactgagg cggggcgacc aaaggctgcc 60
 cgacgcccgg gctttgcccg ggcgccctca gtgagcgagc gagcgcgag agagggagtg 120
 gccaaactca tcaactagggg ttcctggagg ggtggagtcg tgacgtgaat tacgtcatag 180
 ggtagggag gtctgtatt agaggtcacg tgagtgtttt ggcacatttt ggcacaccat 240
 gtggtcacgc tgggtattta agcccgagtg agcacgcagg gtctccattt tgaagcggga 300
 ggtttgaacg cgcagccgcc atgccggggt tttacgagat tgtgattaag gtccccagcg 360
 accttgacgg gcatctgccc ggcattttctg acagctttgt gaactgggtg gccgagaagg 420
 aatgggagtt gccgccagat tctgacatgg atctgaatct gattgagcag gcacccctga 480
 ccgtggccga gaagctgcag cgcgactttc tgacggaatg gcgcgtgtg agtaaggccc 540
 cggaggccct tttctttgtg caatttgaga agggagagag ctacttccac atgcacgtgc 600
 tcgtggaaac caccggggtg aaatccatgg ttttgggacg tttcctgagt cagattcgcg 660
 aaaaactgat tcagagaatt taccgcggga tcgagccgac tttgccaaac tggttcgcgg 720
 tcacaaagac cagaaatggc gccggaggcg ggaacaagggt ggtggatgag tgctacatcc 780
 ccaattactt gctcccaaaa acccagcctg agctccagtg gccgtggact aatatggaac 840
 agtattttaag cgcctgtttg aatctcacgg agcgtaaacg gttggtggcg cagcatctga 900
 cgcacgtgtc gcagacgcag gagcagaaca aagagaatca gaatcccaat tctgatgcgc 960
 cggtgatcag atcaaaaact tcagccagggt acatggagct ggtcgggtgg ctctgggaca 1020
 aggggattac ctcgagagaag cagtggatcc aggaggacca ggctcatac atctccttca 1080
 atgcggcctc caactcgcgg tcccaaatca aggtgcctt ggacaatgcg ggaaagatta 1140
 tgagcctgac taaaacggc cccgactacc tgggtggcca gcagcccggtg gaggacattt 1200
 ccagcaatcg gatttataaa attttggaaac taaacgggta cgatcccaaa tatgcggctt 1260
 ccgtctttct gggatgggcc acgaaaaagt tcggcaagag gaacaccatc tggctgtttg 1320
 ggcttgaac taccgggaag accaaccatcg cggaggccat agcccacact gtgcctttct 1380
 acgggtgcgt aaactggacc aatgagaact ttcccttcaa cgactgtgtc gacaagatgg 1440
 tgatctgggtg ggaggagggg aagatgaccg ccaaggctgt ggagtcggcc aaagccattc 1500
 tcggaggaag caagggtgcg gtggaccaga aatgcaagtc ctgggccag atagaccgga 1560
 ctcccgatg atgcacctc aacaccaaca tgtgcgccgt gattgacggg aactcaacga 1620
 ccttcgaaca ccagcagccg ttgcaagacc ggatgttcaa atttgaactc acccgccgtc 1680
 tggatcatga ctttgggaag gtcaccaagc aggaagtcaa agactttttc cggtgggcaa 1740
 aggatcacgt ggttgagggt gagcatgaat tctacgtcaa aaagggtgga gccaaagaaa 1800
 gacccgcccc cagtgcgcga gatataagt agcccaaacg ggtgcgcgag tcagttgcgc 1860
 agccatcgac gtcagacgcg gaagcttcga tcaactacgc agacaggtag caaaacaaat 1920

gtttctgtca cgtgggcatg aatctgatgc tgtttccctg cagacaatgc gagagaatga 1980
atcagaattc aaatatctgc ttactctacg gacagaaaga ctgttttagag tgctttcccg 2040
tgtcagaatc tcaaccggtt tctgtcgtca aaaaggcgta tcagaaactg tgctacattc 2100
atcatatcat gggaaagggtg ccagacgctt gcactgcctg cgatctggtc aatgtggatt 2160
tggatgactg catctttgaa caataaatga tttaaatcag gtatggctgc cgatggttat 2220
cttcagatt ggctcgagga cactctctct gaaggaataa gacagtgggtg gaagctcaaa 2280
cctggccac caccacaaa gcccgagag cggcataagg acgacagcag gggctctgtg 2340
cttctgggtt acaagtacct cggacccttc aacggactcg acaagggaga gccggtcaac 2400
gaggcagacg ccgcgccctt cgagcacgta caaagcctac gaccggcagc tcgacagcgg 2460
agacaacccg tacctcaagt acaaccacgc cgacgoggag tttcaggagc gccttaaaga 2520
agatacgtct tttgggggca acctcgagc agcagtcttc caggcgaaaa agagggttct 2580
tgaacctctg ggctgggtg aggaacctgt taagacggct ccgggaaaaa agaggccggt 2640
agagcactct cctgtggagc cagactcctc ctcggaacc ggaaggcgg gccagcagcc 2700
tgcaagaaaa agattgaatt ttggtcagac tggagacgca gactcagtac ctgaccccca 2760
gcctctcgga cagccaccag cagccccctc tggctcggga actaatacga tggctacagg 2820
cagtggcgca ccaatggcag acaataacga gggcgccgac ggagtgggta attcctcgg 2880
aaattggcat tgcgattcca catggatggg cgacagagtc atcaccacca gcaccgaac 2940
ctgggccctg cccacctaca acaaccacct ctacaacaa atttccagcc aatcaggagc 3000
ctcgaacgac aatcactact ttggctacag cacccttgg ggggtattttg acttcaacag 3060
attccactgc cacttttcac cactgtactg gcaaagactc atcaacaaca actggggatt 3120
ccgacccaag agactcaact tcaagctctt taacattcaa gtcaaagagg tcacgcagaa 3180
tgacggtagc acgacgattg ocaataacct taccagcagc gttcagggtg ttactgactc 3240
ggagtaccag ctcccgtacg tctcggctc ggcgcacaa ggatgcctcc cgcggttccc 3300
agcagacgtc ttcattggtg cacagtatgg atacctcacc ctgaacaacg ggagtcaggc 3360
agtaggacgc tottcatttt actgcctgga gtactttcct tctcagatgc tgcgtaccgg 3420
aaacaacttt accttcagct acacttttga ggacgttctt ttccacagca gctacgctca 3480
cagccagagt ctggaccgtc tcatgaatcc tctcatcgac cagtacctgt attacttgag 3540
cagaacaaac actocaagtg gaaccaccac gcagtcaagg cttcagtttt ctcaggccgg 3600
agcgagtac attcgggacc agtctaggaa ctggcttctt ggaccctgtt accgccagca 3660
gcgagtatca aagacatctg cggataacaa caacagtga tactcgtgga ctggagctac 3720
caagtaccac ctcaatggca gagactctct ggtgaatccg gccatggcaa gccacaagga 3780
cgatgaagaa aagttttttc ctcagagcgg ggttctcatc tttgggaagc aaggctcaga 3840

gaaaacaaat gtgaacattg aaaagggtcat gattacagac gaagaggaaa tcggaacaac 3900
 caatcccgtg gctacggagc agtatgggtc tgtatctacc aacctccaga gaggcaacag 3960
 acaagcagct accgcagatg tcaacacaca aggcgttctt ccaggcatgg tctggcagga 4020
 cagagatgtg taccttcagg ggcccatctg ggcaaagatt ccacacacgg acggacattt 4080
 tcacctctct cccctcatgg gtggattcgg acttaaacac cctcctccac agattctcat 4140
 caagaacacc cgggtacctg cgaatccttc gaccaccttc agtgcggcaa agtttgcttc 4200
 ctctcatcaca cagtactcca cgggacacgg tcagcgtgga gatcgagtgg gagctgcaga 4260
 aggaaaacag caaacgctgg aatcccgaat ttcagtacac ttccaactac aacaagtctg 4320
 ttaatcgtgg acttaccgtg gatactaatt gcgtgtattc agagcctcgc cccattggca 4380
 ccagatacct gactcgtaat ctgtaattgc ttgttaatca ataaaccgtt taattcgttt 4440
 cagttgaact ttggtctctg cgtatttctt tottatctag tttccatggc tacgtagata 4500
 agtagcatgg cgggttaatc attaaactaca aggaaccctt agtgatggag ttggccactc 4560
 cctctctgcg cgctcgctcg ctactgagg cggggcgacc aaaggtcgcc cgacgccggg 4620
 gctttgcccg ggccgctca gtgagcgagc gagcgcgcag agagggagtg gccaa 4675

<210> 8
 <211> 4726
 <212> DNA
 <213> adeno-associated virus serotype 3

<400> 8
 ttggccactc cctctatgcg cactcgctcg ctcggtgggg cctggcgacc aaaggtcgcc 60
 agacggacgt gctttgcacg tccggcccca ccgagcgagc gagtgcgcag agagggagtg 120
 gccaaactcca tctactagag tatggcagtg acgtaacgcg aagcgcgcga agcgagacca 180
 cgcctaccag ctgcgtcagc agtcagggtga cccttttgcg acagtttgcg acaccacgtg 240
 gccgctgagg gtatatattc tcgagtgagc gaaccaggag ctccattttg accgcgaaat 300
 ttgaacgagc agcagccatg ccgggggtct acgagattgt cctgaaggtc ccgagtgacc 360
 tggacgagcg cctgcggggc atttctaact cgtttgttaa ctgggtggcc gagaaggaat 420
 gggacgtgcc gccggattct gacatggatc cgaatctgat tgagcaggca cccctgaccg 480
 tggccgaaaa gcttcagcgc gagttcctgg tggagtggcg ccgcgtgagt aaggccccgg 540
 aggccctctt ttttgtccag ttcgaaaagg gggagacctt cttccacctg cacgtgctga 600
 ttgagaccat cgggggtcaaa tccatggtgg tcggccgcta cgtgagccag attaaagaga 660
 agctggtgac ccgcatctac cgcggggtcg agccgcagct tccgaactgg ttgcgggtga 720
 ccaaaacgcg aaatggcgcc gggggcgga acaaggtggg ggacgactgc tacatcccca 780
 actacctgct cccaagacc cagcccgagc tccagtgggc gtggactaac atggaccagt 840

atttaagcgc ctgtttgaat ctgcgggagc gtaaaccggct ggtggcgag catctgacgc	900
acgtgtcgca gacgcaggag cagaacaaag agaatacagaa cccaattct gacgcgccgg	960
tcatacaggtc aaaaacctca gccaggtaca tggagctggt cgggtggctg gtggaccgcg	1020
ggatcacgtc agaaaagcaa tggattcagg aggaccaggc ctctacatc tccttcaacg	1080
ccgcctccaa ctgcgggtcc cagatcaagg ccgcgtgga caatgcctcc aagatcatga	1140
gcctgacaaa gacgggtccg gactacctgg tgggcagcaa ccgcgcggag gacattacca	1200
aaaatcggtat ctaccaaata ctggagctga acgggtacga tccgcagtac ggggcctccg	1260
tcttctctgg ctggggcgaa aagaagtctg ggaagaggaa caccatctgg ctctttgggc	1320
gggccacgac gggtaaaacc aacatcgagg aagccatcgc ccacgcctg cccttctacg	1380
gctgcgtaaa ctggaccaat gagaactttc cttcaacga ttgcgtcgac aagatggtga	1440
tctggtggga ggagggaag atgacggcca aggtcgtgga gagcgccaag gccattctgg	1500
gcggaagcaa ggtgcgcgtg gacaaaaagt gcaagtcac gccccagatc gaaccactc	1560
ccgtgatcgt cacctccaac accaacatgt gcgcgtgat tgacgggaac agcaccacct	1620
tcgagcatca gcagccgtg caggaccgga tgtttgaatt tgaacttacc cgcgcttgg	1680
accatgactt tgggaaggtc accaaacagg aagtaaagga ctttttccgg tgggcttccg	1740
atcacgtgac tgacgtggct catgagttct acgtcagaaa gggtgaggct aagaaacgcc	1800
ccgcctccaa tgacgcggat gtaagcgagc caaaacggga gtgcacgtca cttgcgcagc	1860
cgacaacgtc agacgcggaa gcaccggcgg actacgcgga caggtaccaa aacaaatgtt	1920
ctcgtcacgt gggcatgaat ctgatgcttt tccctgtaa aacatgcgag agaataatc	1980
aaatttccaa tgtctgtttt acgcatggtc aaagagactg tggggaatgc ttccctggaa	2040
tgtcagaatc tcaaccggtt tctgtcgtca aaaagaagac ttatcagaaa ctgtgtccaa	2100
ttcatcatat cctgggaagg gcacccgaga ttgcctgttc ggctgcgat ttggccaatg	2160
tggacttgga tgactgtgtt tctgagcaat aaatgactta aaccaggatg ggctgctgac	2220
ggttatcttc cagattggct cgaggacaac ctttctgaag gcattcgtga gtggtgggct	2280
ctgaaacctg gagtccctca acccaaagcg aaccaaac accaggacaa ccgtcgggg	2340
cttgtgcttc cgggttacaa atacctcgga ccggtaacg gactcgacaa aggagagccg	2400
gtcaacgagg cggacgcggc agccctcgaa cacgacaaag cttacgacca gcagctcaag	2460
gccggtgaca acccgtaact caagtacaac cagccgcagc ccgagtttca ggagcgtctt	2520
caagaagata cgtcttttgg gggcaacctt ggcagagcag tcttccaggc caaaaagagg	2580
atccttgagc ctcttggtct ggttgaggaa gcagctaaaa cggctcctgg aaagaagggg	2640
gctgtagatc agtctctca ggaaccggac tcatactctg gtgttggaac atcgggcaaa	2700
cagcctgcc aaaaaagact aaatttcggt cagactggag actcagagtc agtcccagac	2760

cctcaacctc tcggagaacc accagcagcc cccacaagtt tgggatctaa tacaatggct 2820
tcaggcgggtg gcgcaccaat ggcagacaat aacgaggggtg ccgatggagt gggtaattcc 2880
tcaggaaatt ggcattgcga ttcccaatgg ctgggcgaca gagtcatcac caccagcacc 2940
agaacctggg ccctgcccac ttacaacaac catctctaca agcaaattctc cagccaatca 3000
ggagcttcaa acgacaacca ctactttggc tacagcacc cttgggggta ttttgacttt 3060
aacagattcc actgccactt ctcaccacgt gactggcagc gactcattaa caacaactgg 3120
ggattccggc ccaagaaact cagcttcaag ctcttcaaca tccaagttag aggggtcacg 3180
cagaacgatg gcacgacgac tattgccaat aaccttacca gcacggttca agtgtttacg 3240
gactcggagt atcagctccc gtacgtgctc gggtcggcgc accaaggctg tctcccgccg 3300
ttccagcgg acgtcttcat ggtccctcag tatggatacc tcacctgaa caacggaagt 3360
caagcgggtg gacgctcatc cttttactgc ctggagtact tcccttcgca gatgctaagg 3420
actggaaata acttccaatt cagctatacc ttcgaggatg taccttttca cagcagctac 3480
gctcacagcc agagtttggg tcgcttgatg aatcctctta ttgatcagta tctgtactac 3540
ctgaacagaa cgcaaggaac aacctctgga acaaccaacc aatcacggct gcttttttagc 3600
caggctgggc ctcagtctat gtctttgcag gccagaaatt ggctacctgg gccctgctac 3660
cggcaacaga gactttcaaa gactgctaac gacaacaaca acagtaactt tccttgga 3720
gcggccagca aatatcatct caatggccgc gactcgtggt tgaatccagg accagctatg 3780
gccagtcaca aggacgatga agaaaaatct ttccctatgc acggcaatct aatatttggc 3840
aaagaaggga caacggcaag taacgcagaa ttagataatg taatgattac ggatgaagaa 3900
gagattcgta ccaccaatcc tgtggcaaca gagcagtatg gaactgtggc aaataacttg 3960
cagagctcaa atacagctcc cagcactgga actgtcaatc atcagggggc cttacctggc 4020
atggtgtggc aagatcgtga cgtgtacctt caaggaccta tctgggcaaa gattcctcac 4080
acggatggac actttcatcc ttctcctctg atgggaggct ttggactgaa acatccgcct 4140
cctcaaatca tgatcaaaaa tactccggta ccggcaaatc ctccgacgac tttcagccc 4200
gccaagtttg cttcatctat cactcagtac tccactggac aggtcagcgt ggaaattgag 4260
tgggagctac agaaagaaaa cagcaaacgt tggaatccag agattcagta cacttccaac 4320
tacaacaagt ctgttaatgt ggaactttact gtagacacta atggtgttta tagtgaacct 4380
cgccctattg gaaccgggta tctcacacga aacttgtgaa tcctgggttaa tcaataaacc 4440
gtttaattcg tttcagttga actttggctc ttgtgcactt ctttatcttt atcttgtttc 4500
catggctact gcgtagataa gcagcggcct gcggcgcttg cgttcgcgg tttacaactg 4560
ctggttaata tttactctc gccatacctc tagtgatgga gttggccact ccctctatgc 4620
gcactcgtc gctcgggtgg gcctggcgac caaaggctgc cagacggacg tgctttgcac 4680

gtccggcccc accgagcgag cgagtgcgca tagagggagt ggccaa

4726

<210> 9
<211> 3098
<212> DNA
<213> new AAV serotype, clone 42.2

<400> 9
gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
gcgtcgacaa gatggtgatc tgggtgggagg agggcaagat gacggccaag gtcgtggagt 120
ccgccaaggc cattctcggc ggcagcaagg tgcgcgtgga ccaaaagtgc aagtcttcgg 180
cccagatcga tcccaccccc gtgatcgtca cttccaacac caacatgtgc gctgtgattg 240
acgggaacag caccaccttc gagcaccagc agccgttaca agaccggatg ttcaaatttg 300
aactcaccgg ccgtctggag cactgacttg gcaaggtgac aaagcaggaa gtcaaagagt 360
tcttcgcgtg ggcgcaggat cactgaccg aggtggcgca tgagttctac gtcagaaagg 420
gtggagccaa caagagaccc gccccgatg acgcgataa aagcgagccc aagcgggcct 480
gccctcagt cgcggatcca tcgacgtcag acgcggaagg agtccgggtg gactttgccg 540
acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
agacatgcga gagaatgaat cagaatttca acatttgctt cactcacggg accagagact 660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggg cgtcagaaag aggacgtatc 720
ggaaactctg tgccattcat catctgctgg ggcgggctcc cgagattgct tgctcggcct 780
gcgatctggt caacgtggac ctggatgacc gtgtttctga gcaataaatg acttaacca 840
ggtatggctg ccgatgggta tcttcagat tggctcgagg acaacctctc tgagggcatt 900
cgcgagtggg gggacttgaa acctggagcc ccgaaaccca aagccaacca gcaaaagcag 960
gacgacggcc ggggtctggt gcttcctggc tacaagtacc tcggaccctt caacggactc 1020
gacaagggag agccggtcaa cgaggcagac gccgcggccc tcgagcacga caaggcctac 1080
gacaagcagc tcgagcaggg ggacaacccg tacctcaagt acaaccacgc cgacgccgag 1140
tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcgggag agcagtcttc 1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260
cctggaaaga agagacccat agaatcccc gactcctcca cgggcatcgg caagaaaggc 1320
cagcagcccc ctaaaaagaa gctcaacttt gggcagactg gcgactcaga gtcagtgcc 1380
gacccccaac ctctcggaga acctcccgcc gcgccctcag gtctgggatc tgggtacaatg 1440
gctgcaggcg gtggcgacc aatggcagac aataacgaag gcgccgacgg agtgggtaat 1500
gcctccggaa attggcattg cgattccaca tggctgggag acagagtcac caccaccagc 1560
acccgcacct gggccctgcc cactacaac aaccacctct acaagcagat atcaagtcag 1620
agcggggcta ccaacgacaa ccacttcttc ggctacagca cccctgggg ctattttgac 1680

ttcaacagat	tccactgcc	cttctcacc	cgtgactgg	agcgactcat	caacaacaac	1740
tggggattcc	ggcccagaaa	gctgcggttc	aagttgttca	acatccaggt	caaggaggtc	1800
acgacgaacg	acggcggttac	gaccatcgct	aataacctta	ccagcacgat	tcagggtcttc	1860
tcggactcgg	agtaccaact	gccgtacgtc	ctcggctctg	cgcaccaggg	ctgcctccct	1920
ccgttccctg	cggacgtgtt	catgattcct	cagtacggat	atctgactct	aaacaacggc	1980
agtcagtctg	tgggacgttc	ctcctttctac	tgctggagt	actttccttc	tcagatgctg	2040
agaacgggca	ataactttga	attcagctac	acctttgagg	aagtgccttt	ccacagcagc	2100
tatgcgcaca	gccagagcct	ggaccggctg	atgaatcccc	tcacgcacca	gtacctgtac	2160
tacotggccc	ggaccagag	cactacgggg	tccacaaggg	agctgcagtt	ccatcaggct	2220
gggcccaca	ccatggccga	gcaatcaaag	aactggctgc	ccggaccctg	ttatcggcag	2280
cagagactgt	caaaaaacat	agacagcaac	aacaacagta	actttgcctg	gaccggggcc	2340
actaaatacc	atctgaatgg	tagaaattca	ttaaccaacc	cgggcgtagc	catggccacc	2400
aacaaggacg	acgaggacca	gttctttccc	atcaacggag	tgctggtttt	tggcgaaaacg	2460
ggggctgcc	acaagacaac	gctggaaaac	gtgctaata	ccagcgagga	ggagatcaaa	2520
accaccaatc	ccgtggctac	agaagaatac	ggtgtggtct	ccagcaacct	gcaatcgtct	2580
acggccggac	cccagacaca	gactgtcaac	agccaggggg	ctctgcccg	catggtctgg	2640
cagaaccggg	acgtgtacct	gcagggtccc	atctgggcca	aaattcctca	cacggacggc	2700
aaacttcacc	cgtctcccct	gatgggcgga	tttgactca	aacacccgcc	tcctcaaatt	2760
ctcatcaaaa	acaccccggt	acctgcta	cctccagagg	tgtttactcc	tgccaagttt	2820
gcctcattta	tcacgcagta	cagcaccggc	caggtoagcg	tgagatcga	gtgggaactg	2880
cagaaagaaa	acagcaaacg	ctggaatcca	gagattcagt	acacctcaa	ttatgccaa	2940
tctaataatg	tggaatttgc	tgtcaacaac	gaaggggttt	atactgagcc	tcgccccatt	3000
ggcacccggt	acctcaccg	taacctgtaa	ttgcctgtta	atcaataaac	cgggttaattc	3060
gtttcagttg	aactttggtc	tctgcgaagg	gcgaattc			3098

<210> 10
 <211> 3098
 <212> DNA
 <213> new AAV serotype, clone 16.3

<400>	10	
gaattcgccc	ttcgcagaga	ccaaagttca actgaaacga atcaaccggt ttattgatta 60
acaagtaatt	acagggttacg	ggtgaggtaa cgggtgccaa tggggcgagg ctacgtataa 120
acccttcgt	tggtgacagc	aaattccaca ttattagact tggcataatt tgagggtgtac 180
tgaatctctg	gattccagcg	tttgtgtttt tctttctgca gttccactc gatctccacg 240

ctgacctggc cgggtgctgta ctgcgtgata aatgaggcaa actaggcagg agtaaacacc	300
cctggaggat tagcaggtag cgggggtgtt ttgatgagaa tttgaggagg cgggtgtttg	360
agtccaaatc cggccatcag gggagacggg tgaaagtgtc cgtccgtgtg aggaattttg	420
gccagatgg gaccctgcag gtacacgtcc cggttctgcc agaccatgcc gggcagagcc	480
ccctggctgt tgacagtctg tgtctggggg ccggccgtag acgattgcag gttgctggag	540
accacaccgt attcttctgt agccacggga ttggtgtgtt tgatctctc ctcgtgtgtc	600
attagcacgt tttccagcgt tgtctgtgtg gcagccccc ttttgccaaa aaccagcact	660
ccgttgatgg gaaagaactg gccctcgtcg tccttgttgg tggccatggc tacgcccggg	720
ttggttaatg aatttctacc attcagatgg tatttagtgg ccccggtcca ggcaaagtta	780
ctgttgttgt tgctgtctat gttttttgac agtctctgct gccgataaca gggccggggc	840
agccagttct ttgattgctc ggccatggtg ttggggcccag cctgatggaa ctgcagctcc	900
cttgtggacc ccgtagtgtc ctgggtccgg gccaggtagt acaggtagt gtcatgagg	960
ggattcatca gccgggtccag gctctggctg tgcccatagc tgctgtggaa aggcacttcc	1020
tcaaagggtg agctgaattc aaagttattg cccgttctca gcattctgaga aggaaagtac	1080
tccaggcagt agaaggagga acgtcccata gactgactgc cgttgttttag agtcagatat	1140
ccgtactgag gaatcatgaa cacgtccgca gggaacggag ggaggcagcc ctgggtcgca	1200
gagccgagga cgtacggcag ttggtactcc ggtccgaga agacctgaat cgtgctggta	1260
aggttattag cgatggctgt aacgcgtcg ttctgtctga cctccttgac ctggatgttg	1320
aacaacttga accgcagctt tctgggccgg aatccccagt tgttgttgat ggtcgtctgc	1380
cagtccagtg gtgagaagtg gcagtggaa ctgttgaaat caaaatagcc ccaggggggtg	1440
ctgtagccga agaagtgtt gtctgttgta gcccgcctc gacttgatat ctgctttag	1500
aggtgtgtgt ttaggtggg cagggcccag gtgcgggtgc tgggtgtgat gactctgtc	1560
cccagccatg tggaaatcga atgccaattt ccggaggcat taccactcc gtcgggcct	1620
tcgttattgt ctgccattgg tgcgccaccg cctgcagcca ttgtaccaga tccagacct	1680
gagggcgcg cgggaggttc tccgagaggt tgggggtcgg gcaactgactc tgagtgcga	1740
gtctgcocaa agttgagctt ctttttagcg ggctgctggc ctttcttgcc gatgccgtg	1800
gaggagtccg gggattctat ggggtctctt tttccaggag ccgtcttagc gcttctctca	1860
accagaccga gaggttcgag aaccgcctt ttggcctgga agactgctc cccgaggttg	1920
ccccaaaag acgtatctt ttgaagacgc tcctgaaact cagcgtcggc gtggtgttac	1980
ttgaggtacg ggttgtccc ctgctcgagc tgcttgtct aggccttgct gtgctcgagg	2040
gccgcggcgt ctgcctcgtt gaccggtct ccttgtcga gtcggttgaa gggccgagg	2100
tacttgtagc caggaagcac cagaccccg cgtcgtcct gcttttgctg gttggctttg	2160

ggtttcgggg ctccaggttt caagtccac cactcgcga tgccctcaga gaggttggtcc 2220
 tcgagccaat ctggaagata accatcggca gccatacctg gtttaagtca tttattgctc 2280
 agaaacacag tcatccaggt ccacgttgac cagatcgcag gccgagcaag caatctcggg 2340
 agcccccccc agcagatgat gaatggcaca gagtttccga tacgtcctct ttctgacgac 2400
 cggttgagat tctgacacgc cggggaaaca ttctgaacag tctctggtcc cgtgcgtgaa 2460
 gcaaattgttg aaattctgat tcattctctc gcatgtcttg cagggaaaca gcatctgaag 2520
 catgccccgc tgacgagaac atttgttttg gtacctgtcg gcaaagtcca cggagctcc 2580
 ttccgcgtct gacgtcgatg gatccgcgac tgaggggcag gccgccttgg gctcgtttt 2640
 atccgcgtca tcgggggcgg gcctcttggt ggtccaccc tttctgacgt agaactcatg 2700
 cgccacctcg gtcacgtgat cctgcgcca gcggaagaac tcttgactt cctgctttgt 2760
 caccttgcca aagtcctgct ccagacggcg ggtgagttca aatttgaaca tccggtcttg 2820
 taaocgctgc tgggtgctga aggtggtgct gttcccgta atcacggcg acatgttggt 2880
 gttggaagtg acgatcacgg ggggtggatc gatctggcg gacgacttg acttttggtc 2940
 cagcgcacc ttgctgccg cgagaatggc cttggcggac tccacgacct tggccgtcat 3000
 cttgccctcc tcccaccaga tcaccatctt gtcgacgcaa tcgttgaagg gaaagtctc 3060
 attggtccag ttgacgcagc cgtagaaagg gcgaattc 3098

<210>. 11
 <211> 3121
 <212> DNA
 <213> new AAV serotype, clone 29.3

<400> 11
 gaattcgccc ttcgcagaga ccaaagttca actgaaacga atcaaccggt ttattgatta 60
 acaagcaatt acagattacg ggtgaggtaa cgggtgccga tggggcgagg ctcaagaataa 120
 gtgccatctg tgtaacagc aaagtccaca tttgtagatt ttagtagtt ggaagtgtat 180
 tgaatctctg ggttcacgc tttgctgtt tctttctgca gctccattc aatttcacg 240
 ctgacctgtc cgggtgctga ctgcgtgatg aacgacgcca gcttagcttg actgaaggta 300
 gttggaggat ccgcgggaac aggtgtattc ttaacagga tctgaggagg cgggtgtttc 360
 agtccaaagc ccccatcag cggcgaggga tgaagtttc cgtccgtgtg aggaatcttg 420
 gccagatag gacctgcag gtacacgtcc cggttctgcc agaccatgcc aggtaaggct 480
 ccttgactgt tgacggccc tacaatagga gcggcgtttt gctgttgac gttatcggcc 540
 accacgccgt actgttctgt ggccactggg ttggtggtt taatttctc ctactggtt 600
 agcataacgc tgctatagtc caggttgctt tttccagct cctgtttccc aaacattaag 660
 actccgctgg acggaaaaa tcgctcttcg tcgtccttgt gggttgccat agcgacaccg 720
 ggatttacca gagagtctct gccattcaga tgatacttg tggcacgggt ccaggcaaaag 780

ttgctgttgt tattttgcga cagtgtcgtg gagacgcgtt gctgccggtg gcagggcccc 840
 ggtagccagt ttttggcctg agccgacatg ttattaggcc cggcctgaga aaatagcaac 900
 tgctgagttc ctgcggtacc tcccgtaggac tgagtcgag acaggtagta caggtactgg 960
 tcgatgaggg ggttcacag ccggtccagg ctttggctgt gcgcgtagct gctgtgaaaa 1020
 ggcacgtcct caaactggtg gctgaactca aagttgttgc ccgttctcag catttgagaa 1080
 ggaaagtact ccaggcagta gaaggaggaa cggccacgg cctgactgcc attgttcaga 1140
 gtcaggtacc cgtactgagg aatcatgaag acgtccgccc ggaacggagg caggcagccc 1200
 tggcgcgcag agccgaggac gtacgggagc tggatttccg agtccgtaaa gacctgaatc 1260
 gtgctggtaa ggttattggc gatggtcttg gtgccttcat tctgcgtgac ctcttgacc 1320
 tggatgttga agagcttgaa gttgagtctc ttgggcccga atccccagtt gttgttgatg 1380
 agtcgctgcc agtcacgtgg tgagaagtg cagtggaaac tgttaaagtc aaaatacccc 1440
 caggggggtgc tgtagccgaa gtaggtgttg tcgttggtgc ttccctccga agtcccgttg 1500
 gagatttgct tgtagagggt gttgttgtag gtggggaggg cccaggttcg ggtgctgggtg 1560
 gtgatgactc tgcgcccag ccattgtgaa tcgcaatgcc aatttcctga ggaactaccc 1620
 actccgtcgg cgccttcgtt attgtctgcc attggagcgc caccgcctgc agccattgta 1680
 ccagatocca gaccagaggg gcctgcgggg gttctccga ttggttgagg gtcgggact 1740
 gactctgagt cgcagctctg cccaaagttg agtctctttt tcgcgggctg ctggcctttc 1800
 ttgccgatgc ccgtagtga gtctggagaa cgctgggggtg atggctctac cggctctctc 1860
 tttccaggag ccgtcttagc gccttctca accagaccga gaggttcgag aaccgccttc 1920
 ttggcctgga agactgctcg tccgaggttg ccccaaaag acgtatcttc ttgcagacgc 1980
 tcctgaaact cggcgtcggc gtggttatac cgcaggtagc gattgtcacc cgctttgagc 2040
 tgctggctgt aggccttgc gtgctcgagg gccgtgcgt ccgcgcgctt gacgggctcc 2100
 cccttgctga gtccgttgaa gggctcgagg tacttgtagc caggaagcac cagaccccg 2160
 ccgtcgtcct gcttttgctg gttggctttg ggcttcgggg ctccaggttt cagcgcacac 2220
 cactcgcgaa tgccctcaga gaggttgctc tcgagccaat ctggaagata accatcggca 2280
 gccatacctg atctaaatca tttattgttc aaagatgcag tcatccaaat ccacattgac 2340
 cagatcgcag gcagtgaag cgtctggcac ctttcccatg atatgatgaa tgtagcacag 2400
 tttctgatac gcctttttga cgacagaaac gggttgagat tctgacacgg gaaagcactc 2460
 taaacagtct ttctgtccgt gagtgaagca gatatttgaa ttctgattca ttctctcgca 2520
 ttgtctgcag ggaaacagca tcagattcat gccacgtga cgagaacatt tgttttggtg 2580
 cctgtccgag tagttgatcg aagcttcgc gtctgacgtc gatggctgcg caactgactc 2640
 gcgcaccggt ttgggtcac ttatatctgc gtcactgggg gcgggtcttt tcttggtcc 2700

accctttttg acgtagaatt catgctccac ctcaaccacg tgatcctttg cccaccggaa 2760
 aaagtctttg acttctgct tgggtgacctt cccaaagtca tgatccagac ggccgggtgag 2820
 ttcaaatttg aacatccggt cttgcaacgg ctgctgggtgt tcgaagggtcg ttgagttccc 2880
 gtcaatcacg gcgcacatgt tgggtgttga ggtgacgac acggggagtcg ggtctatctg 2940
 ggccgaggac ttgcatttct ggtccacgag cacttgctt cctccgagaa tggttttggc 3000
 cgactccacg accttggcgg tcattctccc ctctccac cagatcacca tcttgcgac 3060
 acagtcgttg aagggaagt tctcattggt ccagttgacg cagccgtaga agggcgaatt 3120
 c 3121

<210> 12
 <211> 3121
 <212> DNA
 <213> new AAV serotype, clone 29.4

<400> 12
 gaattcgccc ttctacggct gcgtcaactg gaccaatgag aactttccct tcaacgactg 60
 tgtcgacaag atggtgatct ggtgggagga ggggaagatg accgccaagg tcgtggagtc 120
 ggccaaagcc attctcggag gaagcaaggt gcgcgtggac cagaaatgca agtcctcggc 180
 ccagatagac ccgactcccg tgatcgtcac ctccaacacc aacatgtgag ccgtgattga 240
 cgggaactca acgaccttcg aacaccagca gccgttgcaa gaccggatgt tcaaatgtga 300
 actcaccgac cgtctggatc atgactttgg gaaggtcacc aagcaggaag tcaaagactt 360
 tttccggtgg gcaaaggatc acgtgggttga ggtggagcac gaattctacg tcaaaaagg 420
 tggagccaag aaaagaccg cccccagtga cgcagatata agtgagccca aacgggtgag 480
 cgagtcagtt gcgcagccat cgacgtcaga cgcggaagct tcgatcaact acgcagacag 540
 gtacaaaaac aaatgttctc gtcacgcggg catgaatctg atgctgttcc cctgcagaca 600
 atgcgagaga atgaatcaga attcaaatat ctgcttcaact caccgacaga aagactgttt 660
 agagtgcctt cccgtgtcag aatctcaacc cgtttctgtc gtcaaaaagg cgtatcagaa 720
 actgtgttac attcatcata tcatgggaaa ggtgccagac gcttgcaact cctgcgatct 780
 ggtcgatgtg gatttggatg actgcatctt tgaacaataa atgattttaa tcaggtatgg 840
 ctgccgatgg ttatcttcca gattggctcg aggacaacct ctctgagggc attcgcgagt 900
 ggtgggcgct gaaacctgga gcccgaagc ccaaagccaa ccagcaaaag caggacggcg 960
 gccggggtct ggtgcttctt ggctacaagt acctcggacc cttcaacgga ctgcacaagg 1020
 gggagcccggt caacgcggcg gacgcagcgg cctcagagca cgacaaggcc tacgaccagc 1080
 agctcaaagc ggggtgacaat ccgtacctgc ggtataacca cgcgcagcc gagtttcagg 1140
 agcgtctgca agaagatacg tcttttgggg gcaacctcgg gcgagcagtc ttccaggcca 1200

agaagcgggt tctcgaacct ctcggtctgg ttgaggaagg cgctaagacg gctcctggaa 1260
 agaagagacc ggtagagcca tcaccccagc gttctccaga ctctctacg ggcacgcgca 1320
 agaaaggcca gcagcccgcg aaaaagagac tcaactttgg gcagactggc gactcagagt 1380
 cagtgcccgga cctcaacca atcggagaac ccccgcgagg ccctctggt ctgggatctg 1440
 gtacaatggc tgcaggcggg ggcgtccaa tggcagacaa taacgaaggc gccgacggag 1500
 tgggtagtgc ctacggaaat tggcattgag attccacatg gctgggcgac tgagtcatca 1560
 ccaccagcac ccgaacctgg gccctcccca cctacaacaa ccacctctac aagcaaactc 1620
 ccaacgggac ttcgggagga agcaccaacg acaacaccta cttcggtac agcaccocct 1680
 ggggtatatt tgactttaac agattccact gccacttctc accacgtgac tggcagcgac 1740
 tcatcaacaa caactgggga ttccggccca agagactcaa cttcaagctc ttcaacatcc 1800
 aggtcaagga ggtcacgcag aatgaaggca ccaagaccat cgccaataac cttaccagca 1860
 cgattcaggt ctttacggac tcggaatacc agtcccgta cgtctcggc tctgcgcacc 1920
 agggctgcct gcctccgttc ccggcgagc tcttcatgat tctcagtagc gggtagctga 1980
 ctctgaacaa tggcagtcag gccgtgggcc gtctctcctt ctactgcctg gactactttc 2040
 cttctcaaat gctgagaacg ggcaacaact ttgagttcag ctaccagttt gaggacgtgc 2100
 cttttcacag cagctacgcg cacagccaaa gccctggaccg gctgatgaac cccctcatcg 2160
 accagtacct gtactacctg tctcggactc agtccacggg aggtaccgca ggaactcagc 2220
 agttgtatt ttctcaggcc gggcctaata acatgtcggc tcaggccaaa aactgggtac 2280
 ccgggccctg ctaccggcag taacgcgtct ccacgacact gtcgcaaaat aacaacagca 2340
 actttgtctg gaccggtgcc accaagtatc atctgaatgg cagagactct ctggtagatc 2400
 ccggtgtcgc tatggcaacc cacaaggagc acgaagagcg attttttccg tccagcggag 2460
 tcataatgtt tgggaaacag ggagctggaa aagacaacgt ggactatage agcgtcatgc 2520
 taaccagtga ggaagaaatt aaaaccacca acccagtggc cacagaacag tacggcgtgg 2580
 tggccgataa cctgcaacag caaacgcgg ctctattgt aggggcggc aacagtcaag 2640
 gagccttacc tggcatggc tggcagaacc gggacgtgta cctgcagggt cctacctggg 2700
 ccaagattcc tcacacggac ggaaactttc atccctcgcc gctgatggga ggctttggac 2760
 tgaaacaccc gcctcctcag atcctgatta agaatacacc tgttcccgcg gatcctccaa 2820
 ctacctcag tcaagctaag ctggcgctgt tcatcacgca gtacagcacc ggacaggtca 2880
 gcgtggaaat tgaatgggag ctgcaggaag aaaacagcaa acgctggaac ccagagattc 2940
 aatacacttc caactactac aaatctacaa atgtggactt tgcgtttaac acagatggca 3000
 cttattctga gcctcgcccc atcggcaccg gttacctcac ccgtaatctg taattgcttg 3060
 ttaatcaata aaccggttga ttcgtttcag ttgaactttg gtctctgcga agggcggaatt 3120

<210> 13
 <211> 3121
 <212> DNA
 <213> new AAV serotype, clone 29.5

<400> 13
 gaattcgccc ttcgcgagac caaagttcaa ctgaaacgaa tcaaccggtt tattgattaa 60
 caagcaatta cagattacgg gtgaggtaac gggcgccgat gggcgaggc tcagaataag 120
 tgccatctgt gttaacagca aagtccacat ttgtagattt gtagtagttg gaagtgtatt 180
 gaatctctgg gttccagcgt ttgtgtttt ctttctgcag ctccattca atttccacgc 240
 tgacctgtcc ggtgctgtac tgcgtgatga acgacgccag cttagcttga ctgaaggtag 300
 ttggaggatc cgcgggaaca ggtgtattct taatcaggat ctgaggaggc ggggtgtttca 360
 gtccaaagcc tcccatcagc ggcgagggat gaaagtttcc gtccgtgtga ggaatcttgg 420
 ccagatagg accctgcagg tacacgtccc gggtctgcca gaccatgcca ggtaaggctc 480
 cttgactgtt gacggccctt acaataggag cggcggtttt ctggtgcagg ttatcgcca 540
 ccacgcgcta ctgttctgtg gccactgggt tgggtggttt aatttcttcc tcaactggtta 600
 gcataacgct gctatagtcc acgttgtctt ttccagctcc ctgtttccca aacattaaga 660
 ctccgctgga cggaaaaaat cgctcttctg cgtccttctg ggttgccata gcgacaccgg 720
 gatttaccag agagtctctg ccattcagat gatacttggg ggcaccggtc caggcaaagt 780
 tgctgttgct attttgcgac agtgtcgtgg agacgcgttg ctgccggtag cagggcccg 840
 gtagccagtt tttggcctga gccgacatgt tattaggccc ggctgagaa aatagcaact 900
 gctgagttcc tgcggtacct cccgtggact gagtccgaga caggtagtac aggtactggt 960
 cgatgagggg gttcatcagc cgggtccaggc tttggctgtg cgcgtagctg ctgtgaaaag 1020
 gcacgtcctc aaactggtag ctgaactcaa agttgttgcc cgttctcagc atttgagaag 1080
 gaaagtactc caggcagtag aaggaggaac ggccacggc ctgactgcca ttgttcagag 1140
 tcaggtaacc gtactgagga atcatgaaga cgtccgccgg gaacggaggc aggcagccct 1200
 ggtgcgcaga gccgaggacg tacgggagct ggtattccga gtccgtaaag acctgaatcg 1260
 tgctggtaag gttattggcg atggctcttg tgccttcatt ctgcgtgacc tccttgacct 1320
 ggatgttgaa gagcttgaag ttgaggctct tgggccggaa tcccagttg ttgttgatga 1380
 gtcgctgcca gtcacgtggt gagaagtggc agtggaatct gttaaagtca aaatacccc 1440
 aggggggtgct gtagccgaag taggtgttgt cgttggtgct tcctccgaa gtcccgttgg 1500
 agatttgctt gtagaggtgg ttgtttagg tggggagggc ccaggttcgg gtgctggtgg 1560
 tgatgactcc gtcgccagc catgtggaat cgcaatgcca atttctgag gaactacca 1620
 ctccgtcggc gccttcgtta ttgtctgcca ttggagcgcc accgctgca gccattgtac 1680

cagatcccag accagagggg cctgcggggg gttctccgat tggttgaggg tcgggcactg 1740
 actctgagtc gccagtctgc ccaaagttga gtctcttttt cgcgggctgc tggcctttct 1800
 tgccgatgcc cgtagaggag tctggagaac gctgggggtga tggctctacc ggtctcttct 1860
 ttccaggagc cgtcttagcg ccttcctcaa ccagaccgag aggttcgaga acccgcttct 1920
 tggcctggaa gactgctcgc ccgaggttgc cccaaaaga cgtatcttct tgcagacgct 1980
 cctgaaactc ggcgtcggcg tggttatacc gcaggtacgg attgtcacc gctttgagct 2040
 gctggtgta ggccttgctg tgctcgaggg ccgctgcgtc cgccgcgttg acgggctccc 2100
 ccttgctgag tccgttgaag ggtccgaggt acttgtagcc aggaagcacc agacccggc 2160
 cgctgctctg cttttgctgg ttggctttgg gcttcggggc tccaggtttc agcgcccacc 2220
 actcgcgaat gccctcagag aggttgctct cgagccaatc tgaagataa ccatcggcag 2280
 ccatacctga tttaaatcat ttattgttca aagatgcagt catccaaatc cacattgacc 2340
 agatcgcagg cagtgaagc gtctggcacc tttcccatga tatgatgaat gtagcacagt 2400
 ttctgatacg cttttttgac gacagaaacg ggttgagatt ctgacacggg aaagcactct 2460
 aaacagtctt tctgtccgtg agtgaagcag atatttgaat tctgattcat tctctcgcat 2520
 tgtctgcagg gaaacagcat cagattcatg ccacgtgac gagaacattt gttttggtac 2580
 ctgtctcgt agttgatcga agcttcgcgc tctgacgtcg atggtgcgc aactgactcg 2640
 cgcacccgtt tgggctcact tatatctcgc tactggggg cgggtctttt cttggctcca 2700
 ccctttttga cgtagaattc atgctccacc tcaaccacgt gatcctttgc ccaccgaaa 2760
 aagtctttga cttcctgctt ggtgacctc ccaaagtcag gatccagacg gcgggtgagt 2820
 tcaaatttga acatccggtc ttgcaacggc tgctggtgtt cgaaggctcg tgagttcccg 2880
 tcaatcacgg cgacatgtt ggtgttgag gtgacgatca cgggagtcgg gtctatctgg 2940
 gccgaggact tgcatttctg gtccacgcgc accttgcttc ctccgagaat ggtttggcc 3000
 gactccacga ccttggcggg catcttcccc tctcccacc agatcaccat cttgtcgaca 3060
 cagtcgttga agggaaagtt ctcattggtc cagttgacgc agccgtagaa agggcgaatt 3120
 c 3121

<210> 14
 <211> 3131
 <212> DNA
 <213> new AAV serotype, clone 1-3

<400> 14
 gcggccgcga attcgccctt ggctgcgtca actggaccaa tgagaacttt cccttcaatg 60
 attgcgtcga caagatgggtg atctgggtggg aggagggcaa gatgacggcc aaggctcgtg 120
 agtccgcca ggccattctc ggccgcagca aggtgcgcgt ggaccaaag tgcaagtcgt 180

ccgcccagat cgacccccacc cccgtgatcg tcacctccaa caccaacatg tgcgcctga 240
 ttgacgggaa cagcaccacc ttcgagcacc agcagcctct ccaggaccgg atgtttaagt 300
 tcgaactcac ccgccgtctg gagcacgact ttggcaagggt gacaaagcag gaagtcaaaag 360
 agttcttccg ctgggccagt gatcacgtga ccgaggtggc gcatgagttt tacgtcagaa 420
 agggcgagc cagcaaaaga cccgcccccg atgacgcgga taaaagcgag cccaagcggg 480
 cctgcccctc agtcgcggat ccacgcagct cagacgcgga aggagctccg gtggactttg 540
 ccgacaggtg ccaaaacaaa tgttctcgtc acgcgggcat gcttcagatg ctgtttccct 600
 gcaaacgtg cgagagaatg aatcggaatt tcaacatttg cttcacacac ggggtcagag 660
 actgctcaga gtgtttcccc gggtgtcag aatctcaacc ggtcgtcaga aagaggacgt 720
 atcggaaact ccgtgcgatt catcatctgc tggggcgggc tcccagatt gcttgctcgg 780
 cctgcgatct ggtcaacgtg gacctggatg actgtgttgc tgagcaataa atgacttaaa 840
 ccaggatatg ctgccgatgg ttatcttcca gattggctcg aggacaacct ctctgagggc 900
 attcgcgagt ggtgggcgct gaaacctgga gcccgaagc ccaaagccaa ccagcaaaag 960
 caggacgacg gccgggggtct ggtgcttctt ggctacaagt acctcggacc cttcaacgga 1020
 ctcgacaagg gggagccgt caacgcggcg gacgcagcgg ccctcgagca cgacaaggct 1080
 tacgaccagc agctgcaggc gggtgacaat ccgtacctgc ggtataacca cgccgacgcc 1140
 gagtcttcagg agcgtctgca agaagatacg tcttttgggg gcaacctcgg gcgagcagtc 1200
 ttccaggcca agaagcgggt tctcgaacct ctcggtctgg ttgaggaagg cgctaagacg 1260
 gctcctggaa agaagagacc ggtagagcca tcacccagc gttctccaga ctctctacg 1320
 ggcacggca agaaaggcca acagcccgcc agaaaaagac tcaattttgg tcagactggc 1380
 gactcagagt cagttccaga cctcaacct ctcgagaaac ctccagcagc gccctctggt 1440
 gtgggacctt atacaatggc tgcaggcgggt ggcgacacaa tggcagacaa taacgaaggc 1500
 gccgacggag tgggtagtct ctcgggaaat tggcattgctg attccacatg gctgggcgac 1560
 agagtcatca ccaccagcac ccgaacctgg gccctgccc cctacaacaa ccacctctac 1620
 aagcaaatct ccaacgggac atcgggagga gccaccaacg acaacaccta cttcggctac 1680
 agcaaccctt gggggatatt tgactttaac agattccact gccaccttt accacgtgac 1740
 tggcagcgac tcatcaacaa caactgggga ttccgacca agagactcag cttcaagctc 1800
 ttcaacatcc aggtcaagga ggtcacgcag aatgaaggca ccaagaccat cgccaataac 1860
 ctaccagca ccattcaggt gtttacggac tcggagtacc agctgccgta cgttctcggc 1920
 tctgtccacc agggctgcct gcctccgttc ccggggagc tgttcagatg tcccagtac 1980
 ggctacctaa cactcaacaa cggtagtcag gccgtgggac gctcctcctt ctactgcctg 2040
 gaatactttc cttcgcagat gctgagaacc ggcaacaact tccagtttac ttacaccttc 2100

gaggacgtgc ctttccacag cagctacgcc cacagctaga gcttggaccg gctgatgaat 2160
 cctctgattg accagtacct gtactacttg tctcggactc aaacaacagg aggcacggca 2220
 aatacgcaga ctctgggctt cagccaaggt gggcctaata caatggccaa tcaggcaaaag 2280
 aactggctgc caggaccctg ttaccgccaa caacgcgtct caacgacaac cgggcaaaac 2340
 aacaatagca actttgcctg gactgctggg accaaatacc atctgaatgg aagaaattca 2400
 ttggctaata ctggcatcgc tatggcaaca cacaagacg acgaggagcg tttttttccc 2460
 agtaacggga tcctgatttt tggcaacaa aatgctgcca gagacaatgc ggattacagc 2520
 gatgtcatgc tcaccagcga ggaagaaatc aaaaccacta accctgtggc tacagaggaa 2580
 tacggtatcg tggcagataa cttgcagcag caaacacagg ctctcctcaat tggaactgtc 2640
 aacagccagg gggccttacc cgggtatggtc tggcagaacc gggacgtgta cctgcagggt 2700
 cccatctggg ccaagattcc tcacacggac ggcaacttcc acccgtctcc gctgatgggc 2760
 ggctttggcc tgaacatcc tccgcctcag atcctgatca agaacacgcc tgtacctgcg 2820
 gatcctccga ccaccttcaa ccagtcaaag ctgaactctt tcatcacgca atacagcacc 2880
 ggacaggtea gcgtggaaat tgaatgggag ctgcagaagg aaaacagcaa gcgctggaac 2940
 cccgagatcc agtacacctc caactactac aaatctataa gtgtggactt tgctgttaat 3000
 acagaaggcg tgtactotga accccgcccc attggcacc cttacctcac cgtaatctg 3060
 taattgcctg ttaatcaata aaccggttga ttcgtttcag ttgaactttg gtctctgcga 3120
 agggcgaatt c 3131

<210> 15
 <211> 3127
 <212> DNA
 <213> new AAV serotype, clone 13-3b

<400> 15
 gcggcccgga attcgccctt cgagagacc aaagttcaac tgaacgaat caaccggttt 60
 attgattaac atgcaattac agattacggg tgaggtaacg agtgccaata gggcgaggct 120
 cagagtaaac accctggctg tcaacggcaa agtcacacc agtctgcttt tcaaagttgg 180
 aggtgtactg aatctccggg tcccagcgct tgetgttttc cttctgcagc tccactcga 240
 tttccacgct gacttgtccg gtgctgtact gtgtgatgaa cgaagcaaac ttggcaggag 300
 taaacacctc cggaggatta gcgggaacgg gagtgttctt gatcaggatc tgaggaggcg 360
 gatgtttaag tccaaagccg cccatcaaag gagacgggtg aaagttgcca tccgtgtgag 420
 gaatcttggc ccagatggga ccctgcagggt acacgtcccg gttctgccag accatgccag 480
 gtaaggctcc ctggttgttg acaacttgtg tctgggctgc agtattagcc gcttgtaagt 540
 tgctgctgac tatcccgat tcttccgtgg ctacaggatt agtaggacga atttcttctt 600
 catttgcatt taacacattt tccaatgtag tttgttagt tgctccagtt tttccaaaaa 660

tcaggactcc gctggatggg aaaaagcggg cctcgtcgtc cttgtgagtt gccatggcga	720
cgccgggatt aaccaacgag tttctgocgt tcagggtgata tttgggtggca ccagtccaag	780
caaagttgct gttgtttgtt tgatccagcg ttttgagac cttttgttgc cggaagcagg	840
gtccaggtaa ccaattcttg gcttgttcgg ccatagttga aggcccgccc tggtaaaact	900
gcagttcccc attgccagct gtgcctcctg ggtaactctg tgttctggcc aggtagtaca	960
agtactggtc gatgagggga ttcacagcc ggtccaggct ctggctgtgt gcgtagctgc	1020
tgtggaaagg cacgtcctcg aagctgtagc tgaactcaaa gttgttgccc gttctcagca	1080
tctgagaggg gaagtactcc aggcagtaga aggaggaacg tcccacagac tgactgccat	1140
tgttgagagt caggtagccg tactgaggaa tcatgaagac gtccgcccgg aacggaggca	1200
ggcagccctg gtgcgcagag ccgaggacgt acggcagctg gtattccgag tccgagaata	1260
cctgaatcgt gctggtaagg ttattagcga tggctgtaac gccgtcattc gtcgtgacct	1320
ccttgacctg gatgttgaag agcttgaacc gcagcttctt gggccggaat cccagttgt	1380
tgttgatgag tcgctgccag tcacgtggtg agaagtggca gtggaatctg ttaaagtcaa	1440
aataccccca ggggtgctg tagccgaagt aggtgtgtc gttggtacta cctgcagttt	1500
cactggagat ttgctcgtag aggtggtgt ttaggtggg cagggcccag gttcgggtgc	1560
tgttggtaat gactctgtcg ccagccatg tggaaatcga atgccaattt cctgaggcat	1620
tacccactcc gtccgcacct tcgttattgt ctgccattgg tgcgccaccg cctgcagcca	1680
ctgtaccaga tcccacacta gagggcgctg ctggaggttc tccgagaggt tgagggtcgg	1740
ggactgactc tgagtcgcca gtctgaccga aattgagtct ctttctggcg ggctgctggc	1800
ccttcttgcc gatgcccggt gaggagtcgg gggaacgtg aggtgacggc tctaccggtc	1860
tcttctttgc aggagccgtc ttagcgctt cctcaaccag accgagaggt tcgagaacct	1920
gcttcttgcc ctggaagact gctcgccga ggttgcccc aaatgacgta tcttcttgca	1980
gacgtcctg aaactcggcg tcggcgtggt tataccgcag gtacgggttg tcaccgcac	2040
tgagctgctg gtcgtaggcc ttgtcgtgct cgagggccgc tgcgtccgcc gcgttgacgg	2100
gctccccctt gtcgagtcgg ttgaagggtc cgaggtactt gtagccagga agcaccagac	2160
ccggccggtt gtccctgctt tgcgtggttg ctttgggttt cggggctcca ggtttcaggt	2220
cccaccactc gcgaatgccc tcagagaggt tgcctcagag ccaatctgga agataaccat	2280
cggcagccat acctgattta aatcatttat tgttcaaaga tgcagtcac caaatccaca	2340
ttgaccagat cgcaggcagt gcaagcgtct ggcacctttc ccatgatatg atgaatgtag	2400
cacagtttct gatacgctt tttgacgaca gaaacgggtt tagattctga cacgggaaag	2460
cactctaaac agtctttctg tccgtgagtg aagcagatat ttgaattctg attcattctc	2520
tcgcattgtc tgcagggaaa cagcatcaga ttcatgccca cgtgacgaga acatttgttt	2580

tggtacctgt ctgcgtagtt gatcgaagct tccgcgtctg acgtcgatgg ctgcgcaact	2640
gaactcgcga cccgtttggg ctacttata tctgcgtcac tgggggcggg tcttttcttg	2700
gtccaccct ttttgacgta gaattcatgc tccacctcaa ccacgtaatc ctttgccac	2760
cggaaaaagt ctttgacttc ctgcttggtg accttcccaa agtcatgac cagacggcgg	2820
gtgagttcaa atttgaacat ccggtcttgc aacggctgct ggtgttcgaa ggtcgttgag	2880
ttcccgtcga tcacggcgca catgttggtg ttggagatga cgtcgcggg agtcgggtct	2940
atctggggcg aggacttgca tttctggtcc acgcgcacct tgcttcctcc gagaatggct	3000
ttggccgact ccacgacctt ggcggtcatc ttcccctcct cccaccagat caccatcttg	3060
tcgacacagt cgttgaaggg aaagttctca ttggtccagt tgacgcagcc gtagaaagg	3120
cgaattc	3127

<210> 16
 <211> 3106
 <212> DNA
 <213> new AAV serotype, clone 24-1

<400> 16	
gcggccgcga attcgccctt cgcagagacc aaagttcaac tgaaacgaat caaccggttt	60
attgattaac aagtaattac aggttacggg tgaggtaacg ggtgccaatg gggcgaggct	120
cagtataaac cccttcgttg ttgacagcaa attccacatt attagacttg gcataatttg	180
aggtgtactg aatctctgga ttccagcgtt tgctgttttc tttctgcagt tcccactcga	240
tctccacgct gacctggccg gtgctgtact gcgtgataaa tgaggcaaac ttggcaggag	300
taaacacctc tggaggatta gcaggtaacc ggggtgtttt gatgagaatt tgaggaggcg	360
ggtgtttgag tccaaatccg cccatcaggg gagacgggtg aaagttgccg tccgtgtgag	420
gaattttggc ccagatggga ccctgcaggc acacgtcccg gttctgccag accatgccgg	480
gcagagcccc ctggctgttg acagtctgtg tctgggtcc ggccgtagac gattgcaggt	540
tgctggagac cacaccgtat tcttctgtag ccacgggatt ggtggttttg atctcctcct	600
cgtgtgtcat tagcacgttt tccagcgttg tcttgttggc agccccggtt ttgccaaaaa	660
ccagcactcc gttgatggga aagaactggt cctcgtcgtc cttgttggtg gccatggcta	720
cgcccggtt ggttaatgaa tttctaccat tcagatggta tttagtggcc ccggtccagg	780
caaagttact gttgttggtg ctgtctatgt tttttgacag tctctgctgc cgataacagg	840
gtccgggcag ccagttcttt gattgctcgg ccattggtgtt gggcccagcc tgatggaact	900
gcagctccct tgtggacccc gtagtgctct gggtcgggc caggtagtac aggtactggt	960
cgatgagggg attcatcagc cgtctaggc tctggctgtg cacatagctg ctgtggaaag	1020
gcacttcctc aaaggtgtag ctgaattcaa agttattgcc cgttctcagc atctgagaag	1080

gaaagtactc caggcagtag aaggaggaac gtcccacaga ctgactgccg ttgttttagag	1140
tcagatatcc gtactgagga atcatgaaca cgtccgcagg gaacggagggg aggcagccct	1200
ggtgcgcaga gccgaggacg tacggcagtt ggtactccga gtccgagaag acctgaatcg	1260
tgctggtaag gttatttagcg atgggtcgtaa cgccgtcggt cgctcgtgacc tccttgacct	1320
ggatgttgaa caacttgaac cgcagctttc tgggccggaa tcccagttg ttgttgatga	1380
gtcgtcgcca gtcacgtggt gagaagtggc agtggaaatct gttgaagtca aaatagcccc	1440
aggggggtgct gtagctgaag aagtggttgt cgttggttagc cccgctctga cttgatattct	1500
gcttgtagag gtggttggtt taggtgggca gggcccagggt gcgggtgctg gtggtgatga	1560
ctctgtcgcc cagccatgtg gaatcgcaat gccaatctcc ggaggcatta cccactccgt	1620
cggcgccctc gttattgtct gccattggtg cgccaccgco tgcagccatt gtaccagatc	1680
ccagacctga gggcgcgggc ggaggttctc cgagaggttg ggggtcgggc actgactctg	1740
agtgcgcagt ctgccc aaag ttgagcttct ttttagcggg ctgctggcct ttcttgccga	1800
tgcccgtgga ggagtcgggg gattctatgg gtctcttctt tccaggagcc gtcttagcga	1860
cttctcaac cagaccgaga ggttcgagaa cccgcttctt ggcctggaag actgctcgcc	1920
cgaggttgcc cccaaaagac gtatcttctt gaagacgctc ctgaaactcg gcgtcggcgt	1980
ggttgtagctt gaggtacggg ttgtccccct gctcgagctg cttgtcgtag gccttgctgt	2040
gctcgagggc cgcggcgtct gcctcgttga ccggctctcc cttgtcagat ccgttgaagg	2100
gtctgaggtg cttgtagcca ggaagcacca gaccccgcc gtcgtcctgc ttttgctggt	2160
tggctttggg ttccggggct ccaggtttca agtcccacca ctgcgcaatg ccctcagaga	2220
ggttgctctc gagccaatct ggaagataac catcggcagc catacctggt ttaagtcatt	2280
tattgctcag aaacacagtc atccaggctc acgttgacca gatcgaggc cgagcaagca	2340
atctcgggag cccgccccag cagatgatga atggcacaga gtttcgata cgtcctcttt	2400
ctgacgaccg gttgagattc tgacacgccc gggaaacatt ctgaacagtc tctggtcccg	2460
tgcgtgaagc aaatgttgaa attctgattc actctctcgc atgtcttgca gggaaacagc	2520
atctgaagca tgcccgcgtg acgagaacat ttgttttggt acctgtcggc aaagtccacc	2580
ggagctcctt ccgctctga cgtcgatgga ttccgactg aggggcaggc ccgcttgggc	2640
tcgcttttat ccgctcatc gggggcgggt ctcttggttg cccaccctt tctgacgtag	2700
aacccatgcg ccacctcggt cacgtgatcc tgcgccagc ggaagaacct tttgacttcc	2760
tgtttgtca ccttgccaaa gttatgctcc agacggcggg tgggttcaaa tttgaacatc	2820
cggctctgca acggctgctg gtgctcgaag gtggcgctgt tcccgtaac cagggcgcaac	2880
atgttggtgt tggaggtgac ggtcacgggg gtggggtcga tctgggcgga cgacttgcaac	2940
ttttggtcca cgcgcacctt gctgcgcggc agaattggcct tggcggaactc cagaccttg	3000

gcggtcatct tgcctcctc ccaccagatc accatcttgt cggcgcaatc gttgaaggga 3060
aagttctcat tgggccagtt gacgcagccg tagaaagggo gaattc 3106

<210> 17
<211> 3102
<212> DNA
<213> new AAV serotype, clone 27-3

<400> 17
gcggccgcga attcgccctt cgcagagacc aaagttcaac tgaaacgaat caaccggttt 60
attgattaac aagtaattac aggttacggg tgaggtaacg ggtgccaatg gggcgaggct 120
cagtataaac cccttcgttg ttgacagcaa attccacatt attagacttg gcataatttg 180
aggtgtactg aatctctgga ttccagcgtt tgctgttttc tttctgcagt tcccactoga 240
tctccacgct gacctggccg gtgctgtact gcgtgataaa tgaggcaaac ttggcaggag 300
taaacacctc tggaggatta gcaggatccg ggggtgtttt gatgagaatt tgaggaggcg 360
ggtgtttgag tccaaatccg cccatcaggg gagacgggtg aaagttgccg tccgtgtgag 420
gaatttcggc ccagatggga ccctgcaggt acacgtcccg gttctgccag accatgccgg 480
gcagagcccc ctggctgttg acagtctgtg tccggggtcc gcccgtagac gattgcagg 540
tgctggagac cacaccgtat tcttctgtag ccacgggatt ggtggttttg atctcctcct 600
cgctgggtcat tagcacgttt tccagcgttg tctgtttggc agccccgtt ttgccaaaaa 660
ccagcactcc gttgatggga aggaactggg cctcgtcgtc cttgttggtg gccatggcta 720
cgccccgggtt ggttaatgaa tttctaccat tcagatggta tttagtggcc ccggtccagg 780
caaagtactt gttgttggtg ctgtctatgt tttttgacag tctctgctgc cgataacagg 840
gtccggggcag ccagttcttt gattgctcgg ccacgggtgtt gggcccagcc tgatggaact 900
gcagctccct tgtggacccc gtagtgctct gggccgggc caggtagtac aggtactggt 960
cgatgagggg attcatcagc cgggtccaggc tctggctgtg cgcatactgt ctgtggaaag 1020
gcacttcctc aaaggtgtag ctgaattcaa agttattgcc cgttctcagc atctgagaag 1080
gaaagtactc caggcagcag aaggaggaac gtcccacaga ctgactgccg ttgttttagag 1140
tcagatatcc gtactgagga atcatgaaca cgtccgcagg gaacggaggg aggcagccct 1200
ggtgcgcaga gccgaggacg tacggcagtt ggtactccga gtccgagaag aactgaatcg 1260
tgctggtgag gttattagcg atggctgtaa cgcctcgtt cgtcgtgacc tcttgacct 1320
ggatgttgaa caacttgaac cgcagctttc tgggccgga tccccagttg ttgttgatga 1380
gtcgtgcca gtcacgtggt gagaagtggc agtggaatct gttgaagtca aaatagcccc 1440
aggggggtgct gtagccgaag aagtgggtgt cgttggttag cccgctctga cttgatattc 1500
gcttgtagag gtggttggtt taggtgggca gggcccaggt gcgggtgctg gtggtgatga 1560
ctctgtcgc cagccatgtg gaatcgcaat gccaatctcc ggaggcatta cccactccgt 1620

cggcgccttc gttattgtct gccattggtg cgccaccgcc tgcagccatt gtaccagatc 1680
 ccagacctga gggcgcgcg ggaggttctc cgagaggttg ggggtcgggc actgactctg 1740
 agtcgccagt ctgcccaaag ttgagcttct ttttagcggg ctgctggcct ttcttgccga 1800
 tgcccggtga ggagtcgggg gattctatgg gtctcttctt tccggaagcc gtcttagcgc 1860
 cttcctcaac cagaccgaga ggttcgagaa cccgcttctt ggcttggaag actgctcgcc 1920
 cgaggttgcc cccaaaagac gtatcttctt gaagacgctc ctgaaactcg gcgtcggcgt 1980
 ggttgtaact gaggtacggg ttgtccccct gctcgagctg cttgtcgtag gccttgtcgt 2040
 gctcgagggc cgcggcgtct gcctcgttga cgggctctcc cttgtcgagt ccgttgaagg 2100
 gtccgaggtta cttgtagcca ggaagcacca gaccccgcc gtctcctgc ttttgetggt 2160
 tggcttttggg tttcggggct ccaggtttca agtcccacca ctgcgcaatg cctcagaga 2220
 ggttgtcctc gagccaatct ggaagataac catcggcagc catacctggt ttaagtcatt 2280
 tattgtcag aaacacagtc atccaggtcc acgttgacca gatcgaggc cgagcaagca 2340
 atctcgggag cccgccccag cagatgatga atggcacaga gtttccgata cgtcctcttt 2400
 ctgacgaccg gttgagatcc tgacacgccg gggaaacatt ctgaacagtc tctggtcccg 2460
 tgctgaagc aaatgttgaa attctgattc attctctcgc atgtcttgca gggaaacagc 2520
 atctgaagca tgcccgctg acgagaacat ttgttttggg acctgtcggc aaagtccacc 2580
 ggagctcctt ccgcgtctga cgtcgatgga tccgcgactg aggggcaagc ccgcttgggc 2640
 tcgcttttat ccgcgtcact gggggcgggt ctcttgttgg ctccaccctt tctgacgtag 2700
 aactcatgcg ccacctcggg cagtgatcc tgcgccagc ggaagaactc tttgacttcc 2760
 tgctttgtca ccttgccaaa gtcattgctc agacggcggg tgagttcaaa tttgaacatc 2820
 cggctctgta acggtcgtg gtgctgaag gtggtgctgt tccgtcaat cagggcgac 2880
 atgttggtgt tggaagtga gatcacggg gtgggacga tctgggcgga cgaactgcac 2940
 ttttgggtcca cgcgcacctt gctgccgccg agaattggcct tggcggactc cagcaccttg 3000
 gccgtcatct tgccctcctc ccaccagatc accatcttgt cgacgcaatc gttgaaggga 3060
 aagttctcat tgggtccagtt gacgcagccg aagggcgaat tc 3102

<210> 18
 <211> 3106
 <212> DNA
 <213> new AAV serotype, clone 7-2

<400> 18
 gcggccgcga attcgccctt cgagagacc aaagttcaac tgaaacgaat cagccggttt 60
 attgattaac aagtaattac aggttacggg tgaggtaacg ggtgccaatg gggcgaggct 120
 cagtataaac cccttcgttg ttgacagcaa attccacatt attagacttg gcataatttg 180

agggtgtactg aatctctgga ttccagcggt tgctgttttc tttctgcagt toccactoga	240
tctccacgct gacctggccg gtgctgtact gcgtgataaa tgaggcaaac ttggcaggag	300
taaacacctc tggaggatta gcaggtaccg ggggtgtttt gatgagaatt tgaggaggcg	360
ggtgtttgag tccaaatccg cccatcaggg gagacgggtg aaagttgccg tccgtgtgag	420
gaattttggc ccagatggga ccctgcaggt acacgtcccg gttctgccag accatgccgg	480
gcagagcccc ctggctgttg acagtctgtg tctggggtcc ggccgtagac gattgcaggt	540
tgtggagac cacaccgtat tcttctgtag ccacgggatt ggtggttttg atctctcct	600
cgtgtgtcat tagcacgtt tccagcgtt tcttgttggc agccccgtt ttgccaaaaa	660
ccagcactcc gttgatggga aagaactggt cctcgtcgtc cttgttgggt gccatggcta	720
cgcgccgggt ggttaatgaa tttctaccat tcagatggta tttagtggcc ccggtccagg	780
caaagttact gttgttgttg ctgtctatgt tttttgacag tctctgctgc cgataacagg	840
gtccgggcag ccagttcttt gattgctcg ccattggtgt gggcccagcc tgatggaact	900
gcagctccct tgtggacccc gtagtgctct gggtcgggc caggtagtac aggtactggt	960
cgatgagggg attcatcagc cggtcaggc tctggctgtg cgcatactg ctgtggaag	1020
gcacttctc aaagggttag ctgaattcaa agttatcgcc cgttctcagc atctgagaag	1080
gaaagtactc caggcagtag aaggaggaac gtcccacaga ctgactgccg ttgttttagag	1140
tcagatatcc gtactgagga atcatgaaca cgtccgcagg gaacggaggg aggcagccct	1200
ggtgcgcaga gccgaggacg tacggcagtt ggtactccga gtccgagaag acctgaatcg	1260
tgctggtaag gttattagcg atggtcgtaa cgccgtcgtt cgtcgtgacc tccttgacct	1320
ggatgttgaa caacttgaac cgcagctttc tgggccggaa tcccagttg ttgttgatga	1380
gtcgtgcca gtcacgtggt gagaagtggc agtggaatct gttgaagtca aaatagcccc	1440
agggggtgct gtagccgaag aagtggttgt cgttggtagc cccgctctga cttgatatct	1500
gcttgtagag gtggttgttg taggtggga gggcccaggt gcgggtgctg gtggtgatga	1560
ctctgtgcc cagccatgtg gaatcgcaat gccaatctcc ggaggcatta cccactccgt	1620
cggcgccctc gttattgtct gccattggtg cgccaccgcc tgcagccatt gtaccagatc	1680
ccagacctga gggcgcgccg ggaggttctc cgagaggttg ggggtcgggc actgactctg	1740
agtcgccagt ctgccaaaag ttgagcttct ttttagcggg cggctgcccg ttcttgccga	1800
tgcccgtgga ggagtcggg gattctatgg gtctcttctt tccaggagcc gtcttagcgc	1860
cttctcaac cagaccgaga ggttcgagaa cccgcttctt ggccctggaag actgctgcc	1920
cgaggttgcc cccaaaagac gtatcttctt gaagacgctc ctgaaactcg gcgtcgcggt	1980
ggttgactt gaggtacggg ttgtcccct gctcagctg cttgtcgtag gccttgctgt	2040
gctcagggc cgcggcgtct gcctcgttga ccgctctcc cttgtcaggt ccgttgaagg	2100

gtccgaggta cctgtagcca ggaagcacca gaccccgcc gtcgtcctgc ttttgetggt 2160
 tggcttttggg tttcgggggt ccagggtttca agtcccacca ctccggaatg ccctcagaga 2220
 ggttgccctc gagccaatct ggaagataac catcggcagc catacctggt ttaagtcat 2280
 tattgctcag aaacacagtc atccagggtcc acgttggcca gatcgcaggc cgagcaagca 2340
 atctcgggag ccgcgccag cagatgatga atggcacaga gtttcogata cgtcctcttt 2400
 ctgacgaccg gttgagattc tgacacgccc gggaaacatt ctgaacagtc tctgggtccc 2460
 tgcgtgaagc aaatgttgaa attctgattc attctctcgc atgtcttgca ggggaacagc 2520
 atctgaagca tgcccgctg acgagaacat ttgttttggg acctgtcggc aaagtccacc 2580
 ggagctcctt ccgctctga cgtcgatgga tccgcgactg aggggcaggc ccgcttgggc 2640
 tcgcttttat ccgctcctc gggggcgggt ctcttggttg ctccaccctt tctgacgtag 2700
 aactcatagc ccacctcgtt cagtgatcc tgcgccagc ggaagaactc tttgacttcc 2760
 tgctttgtca ctttgccaaa gtcattgtcc agacggcggg tgagttcaaa tttgaacatc 2820
 cggctcttgta acggctgctg gtgctcgaag gtggtgctgt tcccgtaac caccggcac 2880
 atgttggtgt tggaagtga gatcacggg gtgggatcga tctgggggga cgacttgac 2940
 ttttggtcca cgcgcacctt gctgccgccc agaatggcct tggcggactc cagcaccttg 3000
 gccgtcatcc tgccctctc ccaccagatc accatcttgt cgacgaatc gttgaaggga 3060
 aagttctcat tgggtccagtt gacgcagccc tagaaaggc gaattc 3106

<210> 19
 <211> 3105
 <212> DNA
 <213> new AAV serotype, clone C1

<400> 19
 gaattcggcc ttgctgcgtc aactggacca atgagaactt tcccttcaac gattgcgtcg 60
 acaagatggt gatctggtgg gaggagggca agatgacgc caaggctgtg gattccgcca 120
 aggccattct gggcggaagc aagggtgcgc tggacaaaa gtgcaagtca tcggcccaga 180
 tcgacccac gcccgatgac gtcacctcca acaccaacat gtgcgcgctg atcgacggga 240
 acagcaccac cttcgagcac cagcagccc tgcaggaccg catgttcaag ttcgagetca 300
 ccgcgctct ggagcacgac tttggcaagg tgaccaagca ggaagtcaaa gattcttcc 360
 gctgggctca ggatcacgtg actgagggtg cgcattgatt ctacgtcaga aaggcgagg 420
 ccacaaaag acccgcccc agtgacgccc atataagca gcccaagcgg gcctgcccct 480
 cagttgcgga gccatcgacg tcagacgccc aagcacgggt ggactttgag gacaggatcc 540
 aaaacaaatg ttctcgtcac gcgggcatgc ttcagatgct gtttccctgc aagacatgag 600
 agagaatgaa tcagaatttc aacgtctgct tcacgcacgg ggtagagac tgctcagagt 660
 gcttccccgg cgcgtcagaa tctcaacctg tcgtcagaaa aaagacgtat cagaaactgt 720

gcgcgattca tcattctgctg gggcggggcac ccgagattgc gtgttcggcc cgcgatctcg 780
 tcaacgtgga cttggatgac tgtgtttctg agcaataaat gacttaaacc aggtatggct 840
 gctgacgggtt atcttccaga ttggctcgag gacaacctct ctgagggcat tcgcgagtgg 900
 tgggacctga aacctggagc cccaagccc aaggccaacc agcagaagca ggacgacggc 960
 cggggtctgg tgcttctgg ctacaagtac ctcgaccct tcaacggact cgacaagggg 1020
 gagcccgta acgcggcgga cgcagcggcc ctcgagcag acaaggccta cgaccagcag 1080
 ctcaaagcgg gtgacaatcc gtacctgagg tataaccacg ccgacgcca gtttcaggag 1140
 cgtctgcaag aagatacgtc ttttgggggc aacctcgggc gagcagtctt ccaggccaag 1200
 aagagggtag tcgaacctct gggcctgggt gaagaagggt ctaagacggc tcctggaaag 1260
 aagagaccgt tagagtcacc acaagagccc gactcctcct caggaatcgg caaaaaaggc 1320
 aaacaaccag ccaaaaagag actcaacttt gaagaggaca ctggagccgg agaaggaccc 1380
 cctgaaggat cagataccag cgccatgtct tcagacattg aaatgcgtgc agcaccgggc 1440
 ggaaatgctg tcgatgcggg acaaggttcc gatggagtgg gtaatgcctc ggggtgattg 1500
 cattgcgatt ccacctggtc tgagggcaag gtcacaaca cctcgaccag aacctgggtc 1560
 ttgcccacct acaacaacca cttgtacctg cggctcggaa caacatcaaa cagcaacacc 1620
 tacaacggat tctccacccc ctggggatac tttgacttta acagattcca ctgtcacttc 1680
 tcaccacgtg actggcaaag actcatcaac aacaactggg gactacgacc aaaagccatg 1740
 cgcgttaaaa tcttcaatat ccaagttaag gaggtcaca cgtcgaacgg cgagactacg 1800
 gtcgctaata accttaccag cacggttcag atatttgcgg actcgtcgtg tgagctcccg 1860
 tacgtgatgg acgctggaca agaggggaagt ctgtctcctt tcccaatga cgtcttcatg 1920
 gtgcctcaat atggctactg tggcattgtg actggcgaaa atcagaacca gacggacaga 1980
 aatgctttct actgcctgga gtattttcct tcacaaatgc tgagaactgg caataacttt 2040
 gaaatggctt acaactttgg gaaggtgccg ttccactcaa tgtatgctta cagccagagc 2100
 ccggacagac tgatgaatcc cctcctggac cagtacctgt ggcacttaca gtcgaccacc 2160
 tctggagaga ctctgaatca aggcaatgca gcaaccacat ttggaaaaat caggagtggg 2220
 gactttgcct ttacagaaa gaactggctg cctgggcctt gtgttaaaaca gcagagactc 2280
 tcaaaaactg ccagtcaaaa ttacaagatt cctgccagcg ggggcaacgc tctgttaaag 2340
 tatgacaccc actatacctt aaacaaccgc tggagcaaca tagcgctgg acctccaatg 2400
 gcaacagctg gaccttcaga tggggacttc agcaacgccc agctcatctt ccctggacca 2460
 tcagtcaccg gaaacacaac aacctcagca acaatctgt tgtttacatc agaagaagaa 2520
 attgctgcc acaacccaag agacacggac atgtttggtc agattgctga caataatcag 2580
 aatgctacaa ctgctcccat aaccggcaac gtgactgcta tgggagtgtc tcctggcatg 2640

gtgtggcaaa acagagacat ttactaccaa gggccaattt gggccaagat cccacacgcg 2700
gacggacatt ttcacacctt accgctaatt ggcgggtttt gactgaaaca tccgcctccc 2760
cagatatitta tcaaaaacac ccccgtaacct gccaatcctg cgacaacctt cactgcagcc 2820
agagtggact ctttcatcac acaatacagc accggccagg tcgctgttca gattgaatgg 2880
gaaatcgaaa aggaacgctc caaacgctgg aatcctgaag tgcagtttac ttcaactat 2940
gggaaccagt cttctatggt gtgggctccc gatacaactg ggaagtatac agagccgcg 3000
gttattggct ctcgttattt gactaatcat ttgtaactgc ctagttaatc aataaacctg 3060
gtgattcggt tcagttgaac tttggtctct gcgaaggcg aattc 3105

<210> 20

<211> 3105

<212> DNA

<213> new AAV serotype, clone C3

<400> 20

gaattcgccc ttgctgcgtc aactggacca atgagaactt tcccttcaac gattgcgtcg 60
acaagatggt gatctggtgg gaggagggca agatgaccgc caaggtcgtg gagtccgcca 120
aggccattct gggcggaagc aagggtgcgcg tggacaaaa gtgcaagtca tcggcccaga 180
tcgacccac gcccgatgac gtcacctcca acaccaacat gtgcgccgtg atcgacggga 240
acagcaccac cttcgagcac cagcagccgc tgcaggaccg catgttcaag ttcgagctca 300
ccgcgcgtct ggagcacgac tttggcaagg tgaccaagca ggaagtcaaa gagttcttcc 360
gctgggctca ggatcacgtg actgaggtgg cgcagtgtt ctacgtcaga aaggcgagg 420
ccacaaaag acccgcccc agtgacgcgg atataagcga gcccaagcgg gcctgcccct 480
cagttgcgga gccatcgacg tcagacgcgg aagcaccggt ggactttgcg gacaggtacc 540
aaaacaaatg ttctcgtcac gggggcatgc ttcagatgct gtttcctgc aagacatgcg 600
agagaatgaa tcagaatttc aacgtctgct tcacgcacgg ggtcagagac tgctcagagt 660
gcttccccgg cgcgtcagaa tctcaaccgg tcgtcagaaa aaagacgtat cagaaactgt 720
gcgcgattca tcatctgctg gggcgggcac ccgagattgc gtgttcggcc tgcgatctcg 780
tcaacgtgga cttggatgac tgtgtttctg agcaataaat gacttaaacc aggtatggct 840
gctgacggtt atcttccaga ttggctcgag gacaacctct ctgagggcat tcgcgagtgg 900
tggaacctga aacctggagc ccccaagctc aaggccaacc agcagaagca ggacgacggc 960
cggggtcttg tgcttctggt ctacaagtac ctcggaccct tccacggact cgacaagggg 1020
gagcccgta acgcgcgga cgcagcgcc ctcgagcacg acaaggccta cgaccagcag 1080
ctcaaagcgg gtgacaatcc gtacctgcgg tataaccacg ccgacgccga gtttcaggag 1140
cgtctgcaag aagatacgtc ttttgggggc aacctgggc gagcagtctt ccaggccaag 1200

aagaggggtac	togaaccact	gggcctgggt	gaagaagggtg	ctaagacggc	tcctggaaaag	1260
aagagaccgt	tagagtcacc	acaagagccc	gactcctcct	caggaatcgg	caaaaaaggc	1320
aaacaaccag	ccaaaaagag	actcaacttt	gaagaggaca	ctggagccgg	agacggaccc	1380
cctgaaggat	cagataccag	cgccatgtct	tcagacattg	aaatgcgtgc	agcaccgggc	1440
ggaaatgctg	tcgatgcggg	acaaggttcc	gatggagtgg	gtaatgcctc	gggtgattgg	1500
cattgcgatt	ccacctggtc	tgagggcaag	gtcacaacaa	cctcgaccag	aacctgggtc	1560
ttgccacact	acaacaacca	cttgtacctg	cggtcgggaa	caacatcaaa	cagcaacacc	1620
tacaacggat	tctccacccc	ctggggatac	tttgacttta	acagattcca	ctgtcacttc	1680
tcaccacgtg	actggcaaa	actcatcaac	aacaactggg	gactacgacc	aaaagccatg	1740
cgcgttaaaa	tcttcaatat	ccaagttaag	gaggtcacaa	cgtcgaacgg	cgagactacg	1800
gtcgctaata	accttaccag	cacggttcag	atatttgccg	actcgtcgta	tgagctcccg	1860
tacgtgatgg	acgctggaca	agagggaagt	ctgcctcctt	cccccaatga	cgtcttcattg	1920
gtgcctcaat	atggctactg	tggcattgtg	actggcgaaa	atcagaacca	gacggacaga	1980
aatgctttct	actgcctgga	gtattttcct	tcacaaatgc	tgagaactgg	caataacttt	2040
gaaatggcct	acaactttga	gaaggtgccg	ttccactcaa	tgtatgctca	cagccagagc	2100
ctggacagac	tgatgaatcc	cctcctggac	cagtacctgt	ggcacttaca	gtcgaccacc	2160
tctggagaga	ctctgaatca	aggcaatgca	gcaaccacat	ttggaaaaat	caggagtggga	2220
gactttgcct	tttacagaaa	gaactggctg	cctgggcctt	gtgttaaaca	gcagagattc	2280
tcaaaaactg	ccagtcaaaa	ttacaagatt	cctgccagcg	ggggcaacgc	tctgttaaag	2340
tatgacaccc	actatacctt	aaacaaccgc	tggagcaaca	tagcgcctgg	acctocaatg	2400
gcaacagctg	gaccttcaga	tggggacttc	agcaacgccc	agctcatctt	ccctggacca	2460
tcagtcaccg	gaaacacaac	aacctcagca	aacaatctgt	tgtttacatc	agaaggagaa	2520
attgctgcca	ccaacccaag	agacacggac	atgtttggtc	agattgctga	caataatcag	2580
aatgctacaa	ctgctcccat	aaccggcaac	gtgactgcta	tgggagtgtc	tcctggcatg	2640
gtgtggcaaa	acagagacat	ttactaccaa	gggccaatth	gggccaagat	cccacacgcg	2700
gacggacatt	ttcatccttc	accgctaatt	ggcgtttttg	gactgaaaca	tcgcctccc	2760
cagatatttt	tcaaaaacac	cccgtacct	gccaatcctg	cgacaacctt	cactgcagcc	2820
agagtggact	ctttcatcac	acaatacagc	accggccagg	tcgctgttca	gattgaatgg	2880
gaaatcgaaa	aggaacgctc	caaacgccgg	aatcctgaag	tgcagtttac	ttcaaaactat	2940
gggaaccagt	cttctatggt	gtgggctccc	gatacaactg	ggaagtatac	agagccgcgg	3000
gttattggct	ctcgttattt	gactaatcat	ttgtaactgc	ctagttaatc	aataaaccgt	3060
gtgattcggt	tcagttgaac	tttggtctct	gcgaaggcg	aattc		3105

<210> 21
 <211> 3105
 <212> DNA
 <213> new AAV serotype, clone C5

<400> 21
 gaattcgccc ttcgagaga ccaaagttca actgaaacga atcacacggt ttattgatta 60
 actaggcagt tacaaatgat tagtcaaata acgagagcca ataaccgcg gctctgtata 120
 ctccccagtt gtatcgggag cccacaacat agaagactgg tccccacagt ttgaagtaaa 180
 ctgcacttca ggattccagc gtttgagcgc ttccttttcg atttcccatt caatctgaac 240
 agcgacctgg ccggtgctgt atttgtgat gaaagagtcc actctggctg cagtgaaggt 300
 tgtcgagga taggcagga cgggggtgtt tttgataaat atctggggag gcggatgttt 360
 cagtccaaaa ccgccaatta gcggtgaagg atgaaaatgt ccgtccgcgt gtgggatctt 420
 ggcccaaatt ggcccttggg agtaaatgtc tctgttttgc cacaccatgc caggaagcac 480
 tcccatagca gtcacgttgc cggttatggg agcagttgta gcattctgat tattgtcagc 540
 aatctgacca aacatgtccg tgtctcttgg gttggtggca gcaatttctt cttctgatgt 600
 aaacaacaga ttgtttgctg aggttgttgt gtttccggtg actgatggtc caggaagat 660
 gagctgggag ttgctgaagt ccccatctga aggtccagct gttgccattg gaggtccagg 720
 cgctatgttg ctccagcggg tgtttaaggt atagtgggtg tcatacttta acagagcgtt 780
 gcccccgctg gcaggaatct tgtaattttg actggcagtt tttgagaatc tctgctgttt 840
 aacacaaggc ccaggcagcc agttctttct gtaaaaggca aagtctccac tctgattttt 900
 tccaaatgtg gttgctgcat tgccttgatt cagagtctct ccagaggtgg tcgactgtaa 960
 gtgccacagg tactggtcca ggaggggatt catcagtcgc tccaggctct ggctgtgagc 1020
 atacattgag tggaacggca ccttctcaaa gttgtaagcc gtttcaaagt tattgccagt 1080
 tctcagcatt tgtgaaggaa aatactccag gcagtagaaa gcatttctgt ccgtctgggt 1140
 ctgatttttc ccagtcacaa tgccacagta gccatattga ggcacatga agacgtcatt 1200
 ggggaaagga ggcagacttc cctcttgttc agcgtccatc acgtacggga gtcatacga 1260
 cgagtccgca aatatctgaa ccgtgctggg aaggttatta gcgaccgtag tctcgccgtt 1320
 cgacgttgtg acctccttaa cttggatatt gaagatttta acgcgcattg cttttggctg 1380
 tagtccccag ttgttgttga tgagtctttg ccagtcacgt ggtgagaagt gacagtggaa 1440
 tctgttaaag tcaaagtatc ccagggggg ggagaatccg ttgtaggtgt tgctgtttga 1500
 tgtgtttccg agccgcaggt acaagtgggt gttgtaggtg ggcaagacc aggttctggg 1560
 cgaggttgtt gtgaccttgc cctcagacca ggtggaatcg caatgccaat caccgaggc 1620
 attaccact ccacggaac cttgtccgc atcgacagca tttccgccc gtgctgcacg 1680
 catttcaatg tctgaagaca tggcgtgggt atctgatcct tcaggggggc cgtctccggc 1740

tccagtgtcc tcttcaaagt tgagtctctt tttggctggt tgtttgccct ttttgccgat 1800
 tcctgaggag gaggcgggct cttgtggtga ctctaacggg ctcttctttc caggagccgt 1860
 cttagcacct tcttcaacca ggcccagagg ttcgagtacc ctcttcttgg cctggaagac 1920
 tgctcgcccg aggttgcccc caaaagacgt atcttcttgc agacgctcct gaaactcggc 1980
 gtccgctggt ttataccgca ggtacggatt gtcacccgct ttgagctgct ggtcgtaggc 2040
 cttgtcgtgc tcgagggccg ctgctgcgc gcgcttgacg ggctccccct tgcgagtc 2100
 gttgaagggt ccgaggtact cgtagccagg aagcaccaga ccccgccgt cgtcctgctt 2160
 ctgctggttg gccttgggct tgggggctcc aggtttcagg tcccaccact cgcgaatgcc 2220
 ctgagagagg ttgtctcga gccaatctgg aagataaccg tcagcagcca tacctggttt 2280
 aagtcattha ttgtcagaa acacagtcac ccaagtcac gttgacgaga tcgagggccg 2340
 aacacgcaat ctccgggtgcc cggcccagca gatgatgaat cgcgcacagt ttctgatacg 2400
 tcttttttct gacgacgggt tgagattctg acgcgcggg gaagcactct gacgagtcct 2460
 tgaccccggt cgtgaagcag acgttgaaat tctgattcat tctctcgcat gtcttgacgg 2520
 gaaacagcat ctgaagcatg ccgcgtgac gagaacattt gttttggtac ctgtccgcaa 2580
 ggtccaccgg tgcttcgcg tctgacgtcg atggctccgc aactgagggg caggcccgt 2640
 tgggctcgt tatatccgcg tcaactggggg cgggtctttt ggtggtccg ccctttctga 2700
 cgtagaactc atgcgccacc tcagtcacgt gatcctgagc ccagcgaag aactctttga 2760
 ctctctgctt ggtcaccttg ccaaagtcgt gctccagacg gcgggtgagc tcgaacttga 2820
 acatgcggtc ctgcagcggc tgctggtgct cgaaggtggt gctgttcccg tcgatcacgg 2880
 cgcacatggt ggtgttgag gtgacgatca cggcggtggg gtcgatctgg gccgatgact 2940
 tgcacttttg gtccacgcgc accttgcttc cgcccagaat ggccttggcg gactccacga 3000
 ccttgccggt catcttgccc tcctccacc agatcaccat cttgtcgacg caatcggtga 3060
 agggaaagt ctcattggtc cagttgacgc agcaaggcg aattc 3105

<210> 22
 <211> 3094
 <212> DNA
 <213> new AAV serotype, clone F1

<400> 22
 gaattcgccc ttgctgcgtc aactggacca agagaacttt cccttcaacg attgcgtcga 60
 caagatggtg atctggtggg aggagggcaa gatgacggcc aaggctcgtg agtccgccaa 120
 agccattctg ggcggaagca aggtgcgcgt cgacaaaag tgcaagtcct cggcccagat 180
 cgatcccacc cccgtgatcg tcacctcaa caccaacatg tgcgccgtga tcgacgggaa 240
 cagcaccacc ttcgagcacc agcagccggt gcaggaccgg atgttcaa attgaaactcac 300

ccgccgtctg gaacacgact ttggcaaggt gaccaagcag gaagtcaaag agttcttccg	360
ctgggctagt gatcacgtga ctgaggtgac gcatgagttc tacgtcagaa agggcggagc	420
cagcaaaaga cccgcccccg atgacgcgga tataagcgag cccaagcggg cctgtccctc	480
agtcacggac ccatcgacgt cagacgcgga aggagctccg gtggactttg ccgacaggta	540
ccaaaacaaa tgttctcgtc acgcgggcat gcttcagatg ctgtttccct gcaaaacgtg	600
cgagagaatg aatcagaatt tcaacatttg cttcacgcac ggggtcagag actgtttaga	660
atgtttcccc ggcggtgcag aatctcaacc ggtcgtcaga aaaaagacgt atcggaagct	720
gtgtgcgatt catcatctgc tggggcgggc acccgagatt gcttgctcgg cctgcgacct	780
ggtcaacgtg gacctggacg actgtgtttc tgagcaataa atgacttaaa ccgggtatgg	840
ctgccgatgg ttatcttcca gattggctcg aggacaacct ctctgagggc attcgcgagt	900
ggtggggacct gaaacctgga gccccgaaac ccaaagccaa ccagcaaaag caggacgacg	960
gccgggggtct ggtgcttcct ggctacaagt acctcggacc cttcaacgga ctcgacaagg	1020
gggagcccggt caacgcggcg gacgcagcgg cctcgcagca cgacaaggcc tacgaccagc	1080
agctcaaagc ggggtgacaat ccgtacctgc ggtataacca cgcgcagccc gagtttcagg	1140
agcgtctgca agaagatacg tcatttgggg gcaacctcgg gcgagcagtc ttccaggcca	1200
agaagcgggt tctcgaacct ctcggtctgg ttgaggaagg cgctaagacg gctcctggaa	1260
agaagagacc catagactct ccagactcct ccacgggcat cggcaaaaaa ggccagcagc	1320
ccgctaaaaa gaagctcaat tttggtcaga ctggcgactc agagtcagtc cccgacctc	1380
aacctcttgg agaacctcca gcagcgccct ctagtgtggg atctggtaca atggctgcag	1440
gcggtggcgc accaatggca gacaataacg aaggtgccga cggagtgggt aatgcctcag	1500
gaaattggca ttgcgattcc acatggctgg gcgacagagt catcaccacc agcaccagaa	1560
cctggggcct ccccacctac aacaaccacc tctacaagca aatctccagc agcagctcag	1620
gagccaccaa tgacaaccac taactcggct acagcaccct ctgggggtat tttgacttta	1680
acagattcca ctgccacttc tcaccacgtg actggcagcg actcatcaac aacaactggg	1740
gattccggcc caagaagctg cggttcaagc tcttcaacat ccagggtcaag gaggtcacia	1800
cgaatgacgg cgtcacgacc atcgctaata accttaccag cacggttcag gtctttctcg	1860
actcggaata ccagctgccg tacgtcctcg gctctgcgca ccagggtcgc ctgcctccgt	1920
tcccggcgga cgtcttcatg attcctcagt acggctacct gactctgaac aacggcagcc	1980
aatcgggtgg ccgttcctcc ttctactgcc tggaatatct cccctctcaa atgctgagaa	2040
cgggcaacaa ctttgagtgc agttacagct tcgaggagct gcctttccac agcagctacg	2100
cgcacagcca gagcctagac cggctgatga accctctcat cgaccagtac ctgtactacc	2160
tggcccgga cagagcacc acgggttcca ccagggaact gcaatttcat caagctgggc	2220

ccaatactat ggccgagcag tcaaagaact ggctgcctgg accctgctat aggcaacagg 2280
gactgtcaaa gaacttggac ttttaacaaca acagcaattt tgccctggact gctgccacta 2340
aatatcatct gaatggcaga aactctttga ccaatcctgg cattcccatg gcaaccaaca 2400
aggatgatga ggaccagtgc tttcccatca acgggggtact ggtttttggc aagacgggag 2460
ctgccaaaca aactacgctg gaaaacgttc tgatgaccag cgaggaggag atcaagacca 2520
ctaaccctgt ggctacagaa gaatacgggtg tgggtctccag caacctgcag ccgtctacag 2580
ccgggcctca atcacagact atcaacagcc agggagcact gcctggcatg gtctggcaga 2640
accgggacgt gtatctgcag ggtcccatct gggccaaaat tcctcacacg gatggcaact 2700
ttcaccgctc tcctctgatg ggcggttttg gactcaaaca cccgcctcca cagatcctga 2760
tcaaaaacac acctgtacct gctaatactc cgagggtggt tactcctgcc aagtttgcct 2820
ccttcacac gacgtacagc accggacaag tcagcgtgga aatcgagtgg gagctgcaga 2880
aagaaaacag caagcgtggt aaccagaaa ttcagtatac ttccaattat gccaagtcta 2940
ataatgttga atttgctgtg aacctgatg gtgtttatac tgagcctgcg ccattggca 3000
ctcgttacct ccccgtaat ctgtaattgc ttgttaatca ataaaccggt tgattcgttt 3060
cagttgaact ttggtctctg cgaagggcga attc 3094

<210> 23
<211> 3095
<212> DNA
<213> new AAV serotype, clone F3

<400> 23
gaattcgccc ttgcagaga ccaaagttca actgaaacga atcaaccggt ttattgatta 60
acaagcaatt acagattacg ggtgaggtaa cgagtgccaa tggggcgagg ctgagtataa 120
acaccatcag ggttcacagc aaattcaaca ttattagact tggcataatt ggaagtatac 180
tgaatttctg ggttcacagc cttgctgttt tctttctgca gctccactc gatttccacg 240
ctgacttgtc cgggtgctgta ctgcgtgatg aaggaggcaa acttggcagg agtaaacacc 300
tcoggaggat tagcaggtac aggtgtgttt ttgatcagga tctgtggagg cgggtgtttg 360
agtccaaaac cgcccatcag aggagacggg tgaaagttgc catccgtgtg aggaattttg 420
gccagatgg gaccctgcag atacacgtcc cggttctgcc agaccatgcc aggcagtgtc 480
ccctggctgt tgatagtctg tgattgaggc cgggtgttag acgactgcag gttgtcggag 540
accacaccgt attcttctgt agccacaggg ttagtgggtc tgatctctc ctcgctggtc 600
atcagaacgt tttccagcgt agttttgttg gcagctcccg tcttgccaaa aaccagtacc 660
ccgttgatgg gaaagaactg gtcctcatca tcctgtttg ttgcatggg aatgccagga 720
ttggtcaaag agtttctgcc attcagatga tatttagtgg cagcagtcca ggcaaaattg 780

ctgtttgttgt taaagtccaa gttcttttgac agtctctgtt gcctatagca ggggtccaggg 840
agccagttct ttgactgctc ggccatagta ttggggccag cttgatgaaa ttgcagttcc 900
ctggtggaac ccgtggtgct ctgggtccgg gccaggtagt acaggtagtg gtcgatgaga 960
gggttcatca gccggtctag gctctggctg tgcgctagc tgctgtggaaggcacgtcc 1020
tcgaagctgt aactgaactc aaagtgttg cccgttctca gcatttgaga ggggaaatat 1080
tccaggcagt agaaggagga acggcccacc gattggctgc cgttggtccag agtcaggtag 1140
ccgtactgag gaatcatgaa gacgtccgcc gggaacggag gcaggcagcc ctggtgcgca 1200
gagccgagga cgtacggcag ctggtattcc gactccgaga agacctgaac cgtgctggta 1260
aggttattag cgatggtcgt gacgccgtca ttggtgtga cctccttgac ctggatgttg 1320
aggagcttga accgcagctt cttgggccgg aatccccagt tgttgttgat gactgctgc 1380
cagtcacgtg gtgagaagtg gcagtggaat ctgttaaagt caaaataccc ccagggggtg 1440
ctgtagccga agtagtggtt gtcattggtg gctcctgagc tgctgctgga gatttgcttg 1500
tagaggtggt tgttgtaggt ggggagggcc caggttctgg tgctggtggt gatgactctg 1560
tcgccagcc atgtggaatc gcaatgccaa ttctctgagg cattaccac tccgtcggca 1620
ccttcgttat tgtctgccat tgggtgcgca ccgctgcag ccattgtacc agatcccaca 1680
ctagagggcg ctgctggagg ttctccaaga ggttgagggt cggggactga ctctgagtcg 1740
ccagtctgac caaaattgag cttcttttta gcgggctgct ggcctttttt gccgatgcc 1800
gtggaggagt ctggagagcc tatgggtctc ttctttccag gagcgtctt agcgccttcc 1860
tcaaccagac cgagaggttc gagaaccgc ttcttggcct ggaagactgc tcgccgagg 1920
ttgccccaa atgacgtatc ttcttgaga cgtcctgaa actcggcgtc ggcgtggtta 1980
taccgcaggt accgattgtc accgccttg agctgctggt cgtaggcctt gtcgtgctcg 2040
agggccgctg cgtccgcgc gttgacgggc tcccccttg caggtccgtt gaagggtccg 2100
aggtacttgt agccaggaag caccagacc ccggcgtcgt cctgcttttg ctggttggt 2160
ttgggtttcg gggctccag tttcaggtcc caccactcgc gaatgccctc agagaggttg 2220
tcctcgagcc aatctggaag ataaccatg gcagccatac ctggtttaag tcatttattg 2280
ctcagaaaca cagtcgtcca ggtccacgtt gaccaggctg caggccgagc aagcaatctc 2340
gggtgccgc cccagcagat gatgaatgc acacagcttc cgatacgtct tttttctgac 2400
gaccggttga gattctgaca cgcggggaa acattctaaa cagtctctga cccgtgct 2460
gaagcaaatg ttgaaattct gattcattct ctgcacgtt ttgcaggga acagcacctg 2520
aagcatgccc gcgtgacgag aacatttggt ttggtacctg tcggcaaagt ccaccggagc 2580
tccttcgcg tctgacgtc atgggtcgt gactgaggga cgggccgct tgggtcgt 2640
tatatccgcg tcacggggg cgggtctttt gctggctccg ccctttctga cgtagaactc 2700

atgcgtcacc tcagtcacgt gatcactagc ccagcggaag aactctttga cttcctgctt 2760
 tgtcaccttg ccaaagtcgt gttccagacg gcgggtgagt tcaaatttga acatccggtc 2820
 ctgcaacggg tgctggtgct cgaagggtgg gctgttcccg tcgatcacgg cgcacatggt 2880
 ggtgttggag gtgacgatca cgggggtggg atcgatctgg gcggacgact tgcacttttg 2940
 gtccacggcg accttgctgc cgccgagaat ggccttggcg gactccacga ccttggccgt 3000
 catcttgccc tcctcccacc agatcaccat cttgtogacg caatcgttga agggaaagtt 3060
 ctcattgggc cagttgacgc agcaagggcg aattc 3095

<210> 24
 <211> 3095
 <212> DNA
 <213> new AAV serotype, clone F5

<400> 24
 gaattcgccc ttgcagaga ccaaagttca actgaaacga atcaaccggg ttattgatta 60
 acaagcaatt acagattacg ggtgaggtaa cgagtgccaa tggggcgagg ctcaagtataa 120
 acaccatcag ggttcacagc aaattcaaca ttattagact tggcataatt ggaagtatac 180
 tgaatttctg ggttcacagc cttgctgttt tctttctgca gctccactc gatttccacg 240
 ctgacttgtc cgggtgctga ctgctgatg aaggaggcaa acttggcagg agtaaacacc 300
 tcggagggat tagcaggtag aggtgtgttt ttgatcagga tctgtggagg cgggtgttcg 360
 agtcctaaac cgcccatcag aggagacggg tgaaagtgc catccgtgtg aggaattttg 420
 gccagatgg gaccctgcag atacacgtcc cggttctgcc agaccatgcc aggcagtgtc 480
 ccctggctgt tgatagtctg tgattgagc cggctgttag acgactgcag gttgctggag 540
 accacaccgt attcttctgt agccacaggg ttagtggtct tgatctctc ctcgtgggtc 600
 atcagaacgt tttccagcgt agttttgttg gcagctccc tcttgccaaa aaccagtacc 660
 ccgttgatgg gaaagaactg gtcctcatca tccttgttgg ttgccatggg aatgccagga 720
 ttggtcaaag agtttctgcc attcagatga tatttagtgg cagcagtcca ggcaaaattg 780
 ctgttgttgt taaagtccaa gttctttgac agtctctgtt gcctatagca ggggtccaggc 840
 agccagttct ttgactgctc ggccatagta ttgggccag cttgatgaaa ttgcagttcc 900
 ctggtggaac ccgtggtgct ctgggtccgg gccaggtagt acaggtactg gtcgatgaga 960
 gggttcatca gccggtctag gctctggctg tgcgcgtagc tgctgtggaa aggcacgtcc 1020
 tcgaagctgt aactgaactc aaagtgttg cccgttctca gcatttgaga ggggaaatat 1080
 tccaggcagt agaaggagga acggccacc gattggctgc cgttgttcag agtcaggtag 1140
 ccgtactgag gaatcatgaa gacgtccgcc gggaacggag gcaggcagcc ctggtgcgca 1200
 gagccgagga cgtacggcag ctggtattcc gagtccgaga agacctgaac cgtgctggta 1260
 aggttattag cgatggctgt gacgccgtca ttcgttgtga cctccttgac ctggatgttg 1320

aagagcttga accgcagctt cttgggcccgg aatccccagt tgttggtgat gagtcgctgc 1380
cagtcacgtg gtgagaagtg gcagtggaat ctgttaaagt caaaataccc ccaggggggtg 1440
ctgtagccga agtagtggtt gtcattgggtg gctcctgagc tgctgctgga gatttgcttg 1500
tagagggtgt tgttgtaggt ggggagggcc cagggtcttg tgctggtggt gatgactctg 1560
tcgcccagcc atgtggaatc gcaatgccaa tttcctgagg cattaccac tccgtcggca 1620
ccttcgttat tgtctgccgt tgggtgcgcca cgcctgcag ccattgtacc agatcccaca 1680
ctagagggcg ctgctggagg ttctccaaga ggttgagggg cggggactga ctctgagtcg 1740
ccagtctgac caaaattgag cttcttttta gcgggctgct ggcctttttt gccgatgccc 1800
gtggaggagt ctggagagtc tatgggtctc ttctttccag gagcgtctt agcgccttc 1860
tcaaccagac cgagaggttc gagaaccgc ttcttgccct ggaagactgc tcgcccagg 1920
ttgccccaa atgacgtatc ttcttgacag cgctcctgaa actcggcgtc ggcgtggtta 1980
taccgcaggt acggtattgc accgcctttg agctgctggt cgtaggcctt gtcgtgctcg 2040
agggccgctg cgtccgcgc gttgacgggc tcccccttgt cgagtcctgt gaagggtcg 2100
aggtacttgt agccaggaag caccagacc cggcgtctgt cctgcttttg ctgggttggt 2160
ttgggtttcg gggctccagg tttcaggtcc caccactgc gaatgccctc agagaggttg 2220
tcctcgagcc aatctggaag ataaccatcg gcagccatac ctggtttaag ccatttattg 2280
ctcagaaaca cagtcgtcca ggtccacgtt gaccaggtcg caggccgagc aggcaatctc 2340
gggtgcccgc ccagcagat gatgaatcg acacagcttc cgatacgtct tttttctgac 2400
gaccggttga gattctgaca cgccggggaa acattctaaa cagtctctga ccccgctcgt 2460
gaagcaaatg ttgaaattct gattcattct ctgcacgtt ttgcaggaa acagcatctg 2520
aagcatgccc gcgtggcgag aacatttgtt ttggtacctg tcggcaaagt ccaccggagc 2580
tccttcgcgc tctgacgtcg atgggtcctg gactgagga caggcccgtg tgggctcgt 2640
tatatccgcg tcacggggg cgggtctttt gctggctccg ccctttctga cgtagaactc 2700
atgcgtcacc tcagtcacgt gatcactagc ccagcggaag aactctttga ctctctgctt 2760
tgtcaccttg ccaaagtcgt gttccagacg gcgggtgagt tcaaatttga acatccggtc 2820
ctgcaacggc tgctggtgct cgaaggtggt gctgttcccg tcgatcacgg cgcgcattgt 2880
ggtgttgag gtgacgatca cgggggtggg atcgatctgg gcggacgact tgcacttttg 2940
gtccacgcgc accttgctgc cgccgagaat ggccttggcg gactccacga ccttgccgt 3000
catcttgccc tcctccacc agatcaccat cttgtcgacg caatcgttga agggaaagt 3060
ctcattggtc cagttgacgc agcaagggcg aatc 3095

<210> 25
 <211> 3142
 <212> DNA
 <213> new AAV serotype, clone H6

<400> 25
 aaaacgacgg gccagtgatt gtaatacgcac tcactatagg gcgaaattga aattagcggc 60
 cgcgaattcg cctttcgcag agaccaaagt tcaactgaaa cgaattaaac ggttttattga 120
 ttaacaagca attacagatt acgagtcagg tatctggtgc caatggggcg aggctctgaa 180
 tacacaccat tagtgtccac agtaaagtc acattaacag acttggttga gttggaagtg 240
 tactgaattt cgggattcca gcgtttgctg ttctccttct gcagctccca ctcgatctcc 300
 acgctgacct gtcccgtgga atactgtgtg atgaaagaag caaacttggc agaactgaag 360
 tttgtgggag gattggctgg aacgggagtg tttttgatca tgatctgagg aggcgggtgt 420
 ttgagtccaa aacctcccat cagtggagaa ggatgaaagt gtccatcggt gtgaggaatc 480
 ttggcccaaa tgggtccctg caggtacacg tctcgatcct gccacaccat accaggtaac 540
 gctccttggt gattgacagt tccagtagtt ggaccagtgt ttgagttttg caaattattt 600
 gacacagtcc cgtactgctc cgtagccacg ggattgggtg coctgatttc ttcttcatct 660
 gtaatcatga ctttttccaa atccgcgtcg ttggcatttg ttcttgtttt accaaatata 720
 agggttccat gcattgggaa aaacttttct tctcctcct tgtgactggc catagctggt 780
 cctggattaa ccaacgagtc ccggccattt agatgatact ttgtagctgc agtccaggga 840
 aagttgctgt tgttgttgtc gtttgctgtt ttgacagac gctgctgtct gtagcaaggt 900
 ccaggcagcc agtttttagc ttgaagagac atgttggttg gtccagcttg gctaaacagt 960
 agccgagact gctgaagagt tccactattt gtttgtgtct tgttcagata atacaggtaac 1020
 tggctgatca gaggattcat cagccgatcc agactctggc tgtgagcgta gctgctgtgg 1080
 aaaggcacgt cttcaaaagt gtagctgaac tgaaagtgtt ttccagtacg cagcatctga 1140
 gaaggaaagt actccaggca gtaaaaggaa gagcgtccta ccgctgact cccgttggtc 1200
 agggtgaggt atccatactg tgggaccatg aagacgtccg ctggaaacgg cgggaggcat 1260
 ccttgatgct cagagcccag gacgtacggg agctggtact ccgagtcagt aaacacctga 1320
 accgtgctgg taaggttatt ggcaatcgtc gtcgtaccgt cattctgctg gacctctttg 1380
 acttgaatat taaagagctt gaagttgagt cttttgggoc ggaatccccg gttgttgttg 1440
 acgagtcttt gccagtcacg tgggtgaaaag tggcagtggg atctgttgaa gtcaaaatac 1500
 cccagggggg tgctgtagcc aaagtagtgg ttgtcgttgc tggctcctga ttggctggag 1560
 atttgcttgt agaggtggtt gttgtatgtg ggcagggccc aggttcgggt gctggtggtg 1620
 atgactctgt cgccagcca ttgggaatcg caatgccaat ttcttgagga attaccact 1680
 ccatcggcac cctcgttatt gtctgccatt ggtgcgccac tgctgtagc cattgtagta 1740

gatcccagac cagagggggc tgctggtggc tgtccgagag gctggggggtc aggtacggag 1800
tctgcgtctc cagtctgacc aaaatttaat ctttttcttg caggetgctg gcccgctttt 1860
ccggttcccc agggaggagtc tgggtccaca ggagagtgtc ctaccggcct cttttttccc 1920
ggagccgtct taacaggctc ctcaaccagg ccagagggtt caagaaccct ctttttcgcc 1980
tggaagactg ctctccgag gttgccccca aaagacgtat cttctttaag gcgtccctga 2040
aactctgcgt cggcgtggtt gtacttgagg tacgggttgt ctccgctgtc gagctgccgg 2100
tcgtaggcct tgtcgtgctc gagggccgcg gcgtctgcct cgttgaccgg ctcccccttg 2160
tcgagtcctg tgaagggtcc gaggtacttg taccaggaa gcacaagacc cctgctgtcg 2220
tccttatgcc gctctgcggg ctttggtggt ggtgggccag gtttgagctt ccaccactgt 2280
cttattcctt cagagagagt gtccctcgagc caatctggaa gataaccatc gccagccata 2340
cctgatttaa atcatttatt gttcagagat gcagtcaccc aaatccacat tgaccagatc 2400
gcaggoagtg caagcgtctg gcacctttcc catgatatga tgaatgtagc acagtttctg 2460
atacgccttt ttgacgacag aaacggggtt agattctgac acgggaaagc actctaaaca 2520
gtctttctgt ccgtgagtga agcagatatt tgaattctga ttcattctct cgcattgtct 2580
gcagggaaac agcatcagat tcatgcccac gtgacgagaa catttgtttt ggtacctgtc 2640
cgcgtagtgt atcgaagctt ccgcgtctga cgtcgatggc tgcgcaactg actcgcgcgc 2700
ccgtttgggc tcaacttatat ctgcgtcact gggggcgggt cttttcttag ctccaccctt 2760
tttgacgtag aattcatgct ccacctcaac cagctgatcc tttgccacc ggaaaaagtc 2820
tttcaacttc tgcttggtga cttttccaaa gtcagatcc agacggcggg taagttcaaa 2880
tttgaacatc cggctctgca acggctgctg gtgctcgaag gtcgttgagt tcccgtaat 2940
cacggcgcac atgttggtgt tggagggtgac gatcacggga gtcgggtcta tctgggccga 3000
ggacttgcat ttctggtcca cacgcacctt gcttctcca agaattggctt tggccgactc 3060
cacgaecttg gcggtcatct tcccctctc ccaccagatc accatcttgt cgacgcaatg 3120
gtaaaaggaa agttctcatt gg 3142

<210> 26
<211> 3075
<212> DNA
<213> new AAV serotype, clone H2

<400> 26
tgagaacttt cttttcaacg attgcgtcgg acaagatggg gatctggtgg gagggaggga 60
agatgaccgc caaggctcgt gagtcggcca aagccattct tggaggaagc aagggtgcgtg 120
tggaccagaa atgcaagtcc tcggcccaga tagaccgcac tcccgatgac gtcacctcca 180
acaccaacat gtgcgccgtg attgacggga actcaacgac cttcgagcac cagcagccgt 240
tgcaagaccg gatgttcaaa tttgaactta cccgccgtct ggatcatgac tttggaaagg 300

tcaccaagca ggaagtgaag gactttttcc ggtgggcaaa ggatcacgtg gttgaggtgg 360
 agcatgaatt ctacgtcaaa aagggtggag ctaagaaaag acccgcccc agtgacgcag 420
 atataagtga gcccaaacgg gcgcgcgagt cagttgcgca gccatcaacg tcagacgcgg 480
 aagcttcgat caactacgg gacaggtacc aaaaacaaat gttctcgtca cgtgggcatg 540
 aatctgatgc tgtttccctg cagacaatgc gagagaatga atcagaattc aaatatctgc 600
 ttcactcacg gacagaaaga ctgttttagag tgctttcccg tgtcagaatc tcaaccogtt 660
 tctgtcgtca aaaaggcgta tcagaaactg tgctacattc atcatatcat gggaaaggtg 720
 ccagacgctt gcactgcctg cgatctggtc aatgtggatt tggatgactg catctctgaa 780
 caataaatga tttaaatcag gtatggctgc cgatggttat cctccagatt ggctcgagga 840
 cactctctct gaagggataa gacagtgggtg gaagctcaaa cctggccac caccaccaa 900
 gccgcgagag cggcataagg acgacagcag ggtcttctg cttcctgggt acaagtacct 960
 cggacccttc aacggactcg acaaggggga gccggtcaac gaggcagacg ccgcgccct 1020
 cgagcacgac aaggcctacg accggcagct cgacagcgga gacaaccogt acctcaagta 1080
 caaccacgcc gacgcagagt ttcaggagcg ccttaaagaa gatacgtctt ttgggggcaa 1140
 cctcgagcga gcagtcttcc aggcgaaaaa gagggttctt gaacctctgg gcctggttga 1200
 ggaacctgtt aagacggctc cgggaaaaaa gaggcggta gagcactctc ctgtggagcc 1260
 agactcctcc tcgggaaccg gaaaagcggg ccagcggcct gcaagaaaaa gattaaattt 1320
 tggtcagact ggagacgcag actccgtacc tgacccccag cctctcggac agccaccagc 1380
 agccccctct ggtctgggat ctactacaat ggctacaggc agtggcgcac caatggcaga 1440
 caataacgag ggtgccgatg gagtgggtaa ttccctcagga aattggcatt gcgattccca 1500
 atggctgggc gacagagtca tcaccaccag caccgaacc tgggccctgc ccacatacaa 1560
 caaccacctc tacaagcaaa tctccagcca atcaggagcc agcaacgaca accactactt 1620
 tggctacagc accccctggg ggtattttga ctcaacaga ttccactgcc acttttcacc 1680
 acgtgactgg caaagactca tcaacaacaa ctggggattc cggcccaaaa gactcaactt 1740
 caagctcttt aatattcaag tcaaagaggt cagcgagaat gacggtacga cgacgattgc 1800
 caataacctt accagcacgg ttcagggtgt tactgactcg gattaccagc tcccgtaagt 1860
 cctgggctcg gcgcatacag gatgcctccc gccgtttcca gcggacgtct tcatggctcc 1920
 acagtatgga tacctcaccg tgaacaacgg gagtcaggcg gtaggacgct ctctctttta 1980
 ctgcctggag tactttcctt ctcatatgct gcgtactgga aacaactttc agttcagcta 2040
 cacttttgaa gacgtgcctt tccacagcag ctacgctcac agccagagtc tggatcggtc 2100
 gatgaatcct ctgatcgacc agtacctgta ttatctgaac aagacacaaa caaatagtgg 2160
 aactcttcag cagtctcggc tactgttttag ccaagctgga ccaaccaaca tgtctcttca 2220

agctaaaaac tggctgcctg gaccttgcta cagacagcag cgtctgtcaa aacaggcaaa 2280
 cgacaacaac aacagcaact ttccctggac tgcagctaca aagtatcatc taaatggccg 2340
 ggactcgttg gttaatccag gaccagctat ggccagtcac aaggatgacg aagaaaagtt 2400
 tttcccatg catggaaccc tgatatttgg taaacaagga acaaatgcc aacgacggga 2460
 tttggaaaat gtcattgatta cagatgaaga agaatcagg gccaccaatc ccgtggctac 2520
 ggagcagtac gggactgtgt caaataattt gcaaaactca aacactggtc caactactgg 2580
 aactgtcaat cgccaaggag cgttacctgg tatggtgtgg caggatcgag acgtgtacct 2640
 gcagggaccc atttgggcca agattcctca caccgatgga cactttcatc cttctccact 2700
 gatgggaggt tttggactca aacacccgcc tcctcagatc atgatcaaaa aactcccgt 2760
 tccagccaat cctcccacaa acttcagttc tgccaagttt gcttctttca tcacacagta 2820
 ttccacggga caggtcagcg tggagatcga gtgggagctg cagaaggaga acagcaaacg 2880
 ctggaatccc gaaattcagt acacttccaa ctacaacaag tctgttaatg tggactttac 2940
 tgtggacact aatggtgtgt attcagagcc tcgccccatt ggcaccagat acctgactcg 3000
 taatctgtaa ttgcttgta atcaataaac cgtttaattc gtttcagttg aactttggtc 3060
 tctgcgaagg gcgaa 3075

<210> 27
 <211> 3128
 <212> DNA
 <213> new AAV serotype, clone 42.8

<400> 27
 gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgatc tgggtggagg agggcaagat gacggccaag gtctgtgagt 120
 ccgccaaggc cattctcgcc ggagcaagg tgcgctgga ccaaaagtgc aagtcttccg 180
 cccagatcga tcccaccccc gtgatcgtca cttccaacac caacatgtgc gcggtgattg 240
 acgggaacag caccaccttc gagcaccagc agccgttaca agaccggatg ttcaaatttg 300
 aactcaccgc ccgtctggag cagactttg gcaagggtgac aaagcaggaa gtcaaagagt 360
 tcttcgctg ggcgaggat cacgtgaccg aggtggcgca tgagttctac gtcagaaagg 420
 gtggagccaa caagagacc gcccccgatg acgcggataa aagcgagccc aagcgggcct 480
 gccctcagt cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgccg 540
 acaggtacca aaacaaatgt tctcgtcag cgggcatgct tcagatgctg tttccctgca 600
 agacatgcca gagaatgaat cagaatttca acatttgctt cagcacggg accagagact 660
 gttcagaatg tttccccggc gtgtcagaat ctcaaccggc cgtcagaaag aggacgtatc 720
 ggaaactctg tgccattcat catctgctag ggcgggctcc cgagattgct tgctcggcct 780

gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaaacca 840
 ggtatggctg ccgatggtta tcttcagat tggctcgagg acaacctctc tgagggcatt 900
 cgcgagtggg gggacttgaa acctggagcc ccgaaaccca aagccaacca gcaaaagcag 960
 gacgacggcc ggggtctggt gcttcctggc tacaagtacc tcggaccctt caacggactc 1020
 gacaaggggg agcccgtaa cgcggcggac gcagcggccc tcgagcacga caaggcctac 1080
 gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc cgacgccgag 1140
 tttcaggagc gtctgcaaga agatacgtct tttgggggca acctcgggag agcagtcttc 1200
 caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260
 cctggaaaga agagaccggt agagccatca cccagcgtt ctccagactc ctctacgggc 1320
 atcggaaga caggccagca gcccgcgaaa aagagactca actttgggca gactggcgac 1380
 tcagagtcag tgcccgacc tcaaccaatc ggagaacccc cgcaggccc ctctggtctg 1440
 ggatctggta caatggctgc aggcggtggc gctccaatgg cagacaataa cgaaggcgcc 1500
 gacggagtgg gtagttctc aggaattgg cattgcgatt ccacatggct gggcgacaga 1560
 gtcacacca ccagcaccg aacctgggccc cccccacct acaacaacca cctctacaag 1620
 caaatctcca acgggacatc gggaggaagc accaacgaca acacctactt cggctacagc 1680
 accccctggg ggtattttga ctttaacaga ttccactgcc acttctcacc acgtgactgg 1740
 cagcgactca tcaacaacaa ctggggatto cggccaaga gactcaactt caagctcttc 1800
 aacatccagg tcaaggaggt cagcgagaat gaaggacca agaccatcgc caataacctt 1860
 accagcacga ttcagggtctt tacggactcg gaataccagc tcccgtagt cctcggctct 1920
 ggcaccagg gctgcctgcc tccgttcccg ggcgagctct tcatgattcc tcagtacggg 1980
 tacctgactc tgaacaacgg cagtcaggcc gtgggcccgtt cctccttcta ctgcctggag 2040
 tactttcctt ctcaaatgct gagaacgggc aacaactttg agttcagcta ccagtttgag 2100
 gacgtgcctt ttcacagcag ctacgcgcac agccaaagcc tggaccggct gatgaacccc 2160
 ctcatcgacc agtacctgta ctacctgtct cggactcagt ccacgggagg taccgcagga 2220
 actcagcagt tgctattttc tcaggccggg cctaataaca tgtcggctca ggccaaaaac 2280
 tggctaccgg ggccctgcta ccggcagcaa cgcgtctcca cgacactgtc gcaaaataac 2340
 aacagcaact ttgcttgga cggtgccacc aagtatcatc tgaatggcag agactctctg 2400
 gtaaattccc gtgtcgctat ggcaacgcac aaggacgacg aagagcgatt tttccatcc 2460
 agcggagtct tgatgttttg gaaacaggga gctggaaaag acaacgtgga ctatagcagc 2520
 gttatgctaa ccagtggga agaaatcaaa accaccaacc cagtggccac agaacagtac 2580
 ggcgtggtgg ccgataacct gcaacagcaa aacgccgctc ctattgtagg ggccgtcaac 2640
 agtcaaggag ccttacctgg catggtctgg cagaaccggg acgtgtacct gcagggtcct 2700

atctgggcca agattcctca cacggacggc aactttcctc ctctcgccgt gatgggaggg 2760
 tttggactga aacacccgcc tctcagatc ctgattaaga atacacctgt tcccgcggat 2820
 cctccaacta ccttcagtca agccaagctg ggcgtgttca tcacgcagta cagcacccga 2880
 caggtcagcg tggaaattga atgggagctg cagaaagaga acagcaagcg ctggaacca 2940
 gagattcagt atacttccaa ctactacaaa tctacaaatg tggactttgc tgtcaatact 3000
 gagggacttt attcagagcc tcgccccatt ggcacccgtt acctacccc taacctgtaa 3060
 ttgcctgtta atcaataaac cggctaattc gtttcagttg aactttggtc tctgcgaagg 3120
 gcgaattc 3128

<210> 28
 <211> 3128
 <212> DNA
 <213> new AAV serotype, clone 42.15

<400> 28
 gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgac tggtgggagg agggcaagat gacggccaag gtcgtggagt 120
 ccgccaaggc cattctcggc ggcagcaagg tgcgcgtgga ccaaaagtgc aagtcgtccg 180
 cccagatcga cccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg 240
 acgggaacag caccaccttc gagcaccagc agccgttgca ggaccggatg ttcaaatttg 300
 aactcacccg ccgtctggag catgaacttg gcaagggtgac aaagcaggaa gtcaaagagt 360
 tcttccgctg ggcgcaggat cagtgaccg aggtggcgca tgagttctac gtcagaaagg 420
 gtggagccaa caagagacc gcccccgatg acgcgataa aagcgagccc aagcgggcct 480
 gccctcagt cgcgatcca tcgacgtcag acgcggaagg agtcgggtg gactttgccg 540
 acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
 agacatgcga gagaatgaat cagaatttca acatttgctt cagcgcggg accagagact 660
 gttcagaatg tttccggggc gtgtcagaat ctcaaccggc cgtcagaaag aggacgtatc 720
 ggaaactctg tgccattcat catctgctgg ggcgggctcc cgagattgct tgctcgccct 780
 gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaacca 840
 ggtatggctg ccgatggta tcttcagat tggctcgagg acaacctctc tgagggcatt 900
 cgcgagtggg gggacttgaa acctggagcc ccgaaacca aagccaacca gcaaaagcag 960
 gacgacggcc ggggtctggt gcttcttggc tacaagtacc tcggacctt caacggactc 1020
 gacaaggggg agcccgtaaa cgcggcgagc gcagcggccc tcgagcacga caaggcctac 1080
 gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc cgacgccgag 1140
 tttcaggagc gtctgcaaga agatacgtct tttgggggca acctcgggag agcagtcctc 1200
 caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260

cctggaaaga agagaccggt agagccatca cccagcggtt ctccagactc ctctacgggc 1320
atcggcaaga caggccagca gcccgcgaaa aagagactca actttgggca gactggcgac 1380
tcagagtcag tgcccagacc tcaaccaatc ggagaacccc ccgcaggccc ctctggctctg 1440
ggatctggta caatggctgc aggcgggtggc gctccaatgg cagacaataa cgaaggcgcc 1500
gacggagtgg gtagttcctc aggaaattgg cattgogatt ccacatggct gggcgacaga 1560
gtcatcacca ccagcaccgc aacctggggc ctccccacct acaacaacca cctctacaag 1620
caaattctca acgggacatc gggaggaagc accaacgaca acacctactt cggctacagc 1680
accccttggg ggtattttga ctttaacaga ttccactgcc acttctcacc acgtgactgg 1740
cagcgactca tcaacaacaa ctggggatto cggccaaga gactcaactt caagctcttc 1800
aacatccagg tcaaggaggt cacgcagaat gaaggcacca agaccatcgc caataacctt 1860
accagcacga ttcaggtctt tacggactcg gaataccagc tcccgtagct cctoggctct 1920
gcgcaccagg gctgcccggc tccgttcccg gcggacgtct tcatgattcc tcagtacggg 1980
tacctgactc tgaacaacgg cagtcaggcc gtgggcccgtt cctccttcta ctgcctggag 2040
tactttcctt ctcaaattcg gagaacgggc aacaactttg agttcagcta ccagtttgag 2100
gacgtgcctt ttcacagcag ctacgcgcac agccaaagcc tggaccggct gatgaacccc 2160
ctcatcgacc agtacctgta ctacctgtct cggactcagt ccacgggagg taccgcagga 2220
actcagcagt tgctattttc tcaggccggg cctaataaca tgtcggtca ggccaaaaac 2280
tggtaccccg ggccctgcta ccggcagcaa cgcgtctcca cgacactgtc gcaaaataac 2340
aacagcaact ttgcttgga cgggtgccacc aagtatcatc tgaatggcag agactctctg 2400
gtaaatcccg gtgtcgctat ggcaacgcac aaggacgacg aagagcgatt tttccatcc 2460
agcggagtct tgatgtttgg gaaacaggga gctggaaaag acaacgtgga ctatagcagc 2520
gttatgctaa ccagtgagga agaaatcaaa accaccaacc cagtggccac agaacagtac 2580
ggcgtggtgg ccgataacct gcaacagcaa aacgccgctc ctattgtagg ggccgtcaac 2640
agtcaaggag ccttacctgg catggtctgg cagaaccggg acgtgtacct gcagggtcct 2700
atctgggcca agattcctca cacggacggc aactttcatc cttcgccgct gatgggaggc 2760
tttgactga aacaccgccc tcctcagatc ctgattaaga atacacctgt tcccgggat 2820
cctccaacta ccttcagtca agccaagctg gcgtcggtca tcacgcagta cagcaccgga 2880
caggtcagcg tggaaattga atgggagctg cagaaagaga acagcaagcg ctggaaccca 2940
gagattcagt atacttccaa ctactacaaa tctacaaatg tggactttgc tgtcaatact 3000
gagggtactt attcagagcc tcgccccatt ggcaccggtt acctcaccgc taacctgtaa 3060
ttgcctgtta atcaataaac cgtttaattc gtttcagttg aactttggtc tctgcaagg 3120
gcgaattc 3128

<210> 29
 <211> 3197
 <212> DNA
 <213> new AAV serotype. clone 42.5b

<400> 29
 gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgatac tgggtgggagg agggcaagat gacggccaag gtcgtggagt 120
 ccgccaaggc cattctcggc ggagcaagg tgcggtgga ccaaaagtgc aagtcgtccg 180
 ccagatcga cccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg 240
 acgggaacag caccaccttc gagcaccagc agccgttaca agaccggatg ttcaaatttg 300
 aactcaccgc cgtctggag cagcactttg gcaagggtgac aaagcaggaa gtcaaagagt 360
 tttccgctg ggcgaggat cacgtgaccg aggtggcgca tgagttctac gtcagaaagg 420
 gtggagccaa caagagacc gcccccgatg acgcgataa aagcgagccc aagcgggcct 480
 gccctcagt cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgccg 540
 acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
 agacatgca gagaatgaat cagaatttca acatttgctt cagcacggg accagagact 660
 gttcagaatg tttccccggc gtgtcagaat ctcaaccggt cgtcagaaag aggacgtatc 720
 ggaaactctg tgccattcat catctgctgg ggcggtctc cgagattgct tgctcggcct 780
 gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaacca 840
 ggtatggctg ccgatgggta tttccagat tggctcgagg acaacctctc tgagggcatt 900
 cgcgagtggg gggacttgaa acctggagcc ccgaaacca aagccaacca gcaaaagcag 960
 gacgacggcc ggggtctggt gcttctctgc tacaagtacc tcggaccctt caacggactc 1020
 gacaaggag agccggtcaa cgaggcagac gcccgggccc tcgagcacga caaggcctac 1080
 gacaagcagc tcgagcagg ggacaacccg tacctcaagt acaaccacgc cgacgccgag 1140
 tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcggggc agcagtcttc 1200
 caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260
 cctggaaaga agagaccggt agagccatca cccagcgtt ctccagactc ctctacgggc 1320
 atcggaaga caggccagca gcccgcgaaa aagagactca actttgggca gactggcgac 1380
 tcagagtcag tgcccgacct tcaaccaatc ggagaacccc ccgaggccc ctctggtctg 1440
 ggatctggtg caatggctgc aggcgtggc gctccaatg cagacaataa cgaaggcgcc 1500
 gacggagtgg gtagttctc aggaattgg cattgcgatt ccacatggct gggcgacaga 1560
 gtcacacca ccagcaccgc aacctgggccc cccccacct acaacaacca cctctacaag 1620
 caaatctcca acgggacatc gggaggaagc accaacgaca acacctactt cggctacagc 1680
 accccctggg ggtattttga ctttaacaga ttccactgcc acttctcacc acgtgactgg 1740

cagcgactca tcaacaacaa ctggggatgc cggcccaaga gactcaactt caagctcttc 1800
aacatccagg tcaaggaggt cagcgagaat gaaggcacca agaccatcgc caataacctt 1860
accagcacga ttcaggtctt tacggactcg gaataccagc tcccgtagct cctcggctct 1920
gcgcaccagg gctgcctgcc tccgttcccg gcggacgtct tcatgattcc tcagtacggg 1980
tacctgactc tgaacaacgg cagtcaggcc gtgggcccgtt cctccttcta ctgcctggag 2040
tactttcctt ctcaaatgct gagaacgggc aacaactttg agttcagcta ccagtttgag 2100
gacgtgcctt ttcacagcag ctacgcgcac agccaaagcc tggaccgggt gatgaacccc 2160
ctcatcgacc agtacctgta ctacctgtct cggactcagt ccacgggagg taccgcagga 2220
actcagcagt tgctatcttc tcaggccggg cctaataaca tgcgggtca ggccaaaaac 2280
tggctaccgg ggcctgcta cggcgagcaa cgcgtctcca cgacactgtc gcaaaataac 2340
aacagcaact ttgcttgga cggtgccacc aagtatcatc tgaatggcag agactctctg 2400
gtaaattccc gtgtcgctat ggcaacgcac aaggacgacg aagagcgatt tttccatcc 2460
agcggagtct tgatgtttgg gaaacaggga gctggaaaag acaacgtgga ctatagcagc 2520
gttatgctaa ccagttagga agaaatcaaa accaccaacc cagtggccac agaacagtac 2580
ggcgtggtgg ccgataacct gcaacagcaa aacgccgctc ctattgtagg ggccgtcaac 2640
agtcaaggag ccttacctgg catggtctgg cagaaccggg acgtgtacct gcagggtcct 2700
atctggggcca agattcctca cagggacggc aactttcatc cttcgccgt gatgggaggc 2760
tttggactga aacaccggc tctcagatc ctgattaaga atacacctgt tcccgcgat 2820
cctccaacta cttcagtca agccaagctg gcgtcgttca tcacgcagta cagcaccgga 2880
caggtcagcg tggaaattga atgggagctg cagaaagaga acagcaagcg ctggaaccca 2940
gagattcagt atacttcaa ctactacaaa totacaaatg tggactttgc tgtcaatact 3000
gaggttactt attcagagcc tcgccccatt ggcaccggtt acctcaccg taacctgtaa 3060
ttgcctgtta atcaataaac cgtttaattc gtttcagttg aactttggtc tctgcgaagg 3120
gcgaattcgt ttaaacctgc aggactagtc ctttagtga gggttaattc tgagcttggc 3180
gtaatcatgg gtcatag 3197

<210> 30
<211> 2501
<212> DNA
<213> new AAV serotype, clone 42.1b

<400> 30
gaattcgccc ttggctgcgt caactggacc aatgagaact ttcccttcaa cgattgcgtc 60
gacaagatgg tgatctggtg ggaggagggc aagatgacgg ccaaggctcg ggagtccgcc 120
aaggccattc atcatctgct ggggcgggct cccgagattg cttgctcggc ctgcgatctg 180
gtcaacgtgg acctggatga ctgtgtttct gagcaataaa tgacttaaac caggtatggc 240

tgccgatggt tatottccag attggtctga ggacaacctc tctgagggca ttccgagtg	300
gtgggacttg agacctggag ccccgaaacc caaagccaac cagcaaaagc aggacgacgg	360
ccgggggtctg gtgcttcctg gctacaagta cctcggaccc ttcaacggac tcgacaaggg	420
agagccggtc aacgaggcag acgcgcgggc cctcggacac gacaaggcct acgacaagca	480
gctcggagcag ggggacaacc cgtacctcaa gtacaaccac gccgacgccc agtttcagga	540
gcgtcttcaa gaagatacgt cttttggggg caacctcggg cgagcagtct tccaggccaa	600
gaagcggggt ctogaacctc tcggtctggt tgaggaaggc gctaagacgg ctccctggaaa	660
gaagagaccc atagaatccc ccgactcctc caggggcacg ggcaagaaag gccagcagcc	720
cgctaaaaag agactcaact ttgggcagac tggcgactca gagtcagtgc ccgaccctca	780
accaatcgga gaacccccg caggccccctc tgggtctggga tctggcacia tggctgcagg	840
cgggtggcgct ccaatggcag acaataacga aggcgcggac ggagtgggta gttcctcagg	900
aaattggcat tgcgattcca catggctggg cgacagagtc atcaccacca gcacccgaac	960
ctggggccctc cccacctaca acaaccacct ctacaagcaa atctccaacg ggacatcggg	1020
aggaagcacc aacgacaaca cctacttcgg ctacagcacc ccctgggggt attttgactt	1080
taacagattc cactgccact tctcaccacg tgactggcag cgactcatca acaacaactg	1140
gggattccgg cccaagagac tcaacttcaa gctcttcaac atccaggcca aggaggtcac	1200
gcagaatgaa ggcaccaaga ccacgcgcaa taaccttacc agcacgattc aggtctttac	1260
ggactcggaa taccagctcc cgtacgtcct cggtctctgc caccagggct gcctgcctcc	1320
gttcccggcg gacgtcttca tgattcctca gtacgggtac ctgactctga acaacggcag	1380
tcaggccgtg ggccgttcct ccttctactg cctggagtac tttccttctc aaatgctgag	1440
aacggggcaac aactttgagt tcagctacca gtttgaggac gtgccttttc acagcagcta	1500
tgccgcacagc caaagcctgg accggctgat gaacccccctc atcgaccagt acctgtacta	1560
cctgtctcgg actcagtcca cgggaggtac cgcaggaact cagcagttgc tattttctca	1620
ggccggggcct aataacatgt cggctcaggc caaaaactgg ctaccgggc cctgctaccg	1680
gcagcaacgc gtctccacga cagtgtcgca aaataacaac agcaactttg cttggaccgg	1740
tgccaccaag tatcatctga atggcagaga ctctctggta aatcccggtg tcgctatggc	1800
apcgacacaag ggcgacgaag agcgattttt tccatccagc ggagtcttga tgtttgggaa	1860
acaggagcgt ggaaaagaca acgtagacta tagcagcggt atgctaacca gtgaggaaga	1920
aatcaaaacc accaaccagc tggccacaga acagtacggc gtggtggccg ataacctgca	1980
acagcaaaac gccgctccta ttgtaggggc cgtcaacagt caaggagcct tacctggcat	2040
ggtctggcag aaccgggacg tgtacctgca gggctctatc tgggccaaga ttcctcacac	2100
ggacggcaac tttcatcctt cgcgcgtgat gggaggcttt ggactgaaac accgcctcc	2160

tcagatcctg attaagaata cacctgttcc cgcggatcct ccaactacct tcagtcaagc 2220
caagctggcg tcgttcatca cgcagtacag caccggacag gtcagcgtgg aaattgaatg 2280
ggagctgcag aaagagaaca gcaagcgtg gaaccagag attcagtata cttccaacta 2340
ctacaaatct acaaatgtgg actttgctgt caatactgag ggtacttatt cagagcctcg 2400
ccccattggc acccgttacc tcaccgtaa cctgtaattg cctgttaatc aataaaccgg 2460
ttgattcgtt tcagttgaac tttggtctca agggcgaatt c 2501

<210> 31
<211> 3113
<212> DNA
<213> new AAV serotype, clone 42.13

<400> 31
gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
gcgtcgacaa gatggtgac tggtgggagg agggcaagat gacggccaag gtcgtggagt 120
ccgccaaaggc cattctcggc ggcagcaagg tgcgcgtgga ccaaaagtgc aagtcgtccg 180
cccagatcga tcccaccccc gtgatcgtca cttccaacac caacatgtgc gccgtgattg 240
acgggaacag caccaccttc gagcaccagc agccgttaca agaccggatg ttcaaatttg 300
aactcaccgg ccgtctggag catgactttg gcaagggtgac aaagcaggaa gtcaaagagt 360
tcttcgctg gggcagggat cagctgaccg aggtggcgca tgagttctac gtcagaaagg 420
gtggagccaa caagagaccc gccccgatg acgcgataa aagcgagccc aagcgggcct 480
gcccctcagt cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgccg 540
acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
agacatgcga gagaatgaat cagaatttca acatttgctt cagcacggg accagagact 660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggc cgtcagaaaagg agacgtatc 720
ggaaactctg tgccattcat catctgctgg ggccggctcc cgagattgct tgctcggcct 780
gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaaacca 840
ggtatggctg ccgatggtta tcttcagat tggtcggagg acaacctctc tgagggcatt 900
cgcgagtggg gggacttgaa acctggagcc ccgaaacca aagccaacca gcaaaagcag 960
gacgacggcc ggggtctggt gcttcctggc tacaagtacc tcggaccctt caacggactc 1020
gacaaggggg agcccgtaa cgcggcggac gcagcggccc tcgagcacga caaggcctac 1080
gaccagcagc tcaaagcggg tgacaatccg tacctgcggg ataaccacgc cgacgccgag 1140
tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcgggag agcagtcttc 1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260
cctggaaaga agagacccat agaatcccc gactcctoca cgggcatcgg caagaaaggc 1320
cagcagcccg ctaaaaagaa gotcaacttt gggcagactg gcgactcaga gtcagtgcc 1380

gaccctcaac caatcggaga acccccccga ggccctctg gtctgggac tggtacaatg 1440
gctgcaggcg gtggcgctcc aatggcagac aataacgaag gcgcgcagcg agtgggtagt 1500
tcctcaggaa attggcattg cgattccaca tggctgggcg acagagtcac caccaccagc 1560
accogaacct ggccctccc cacctacaac aaccacctc acaagcaaat ctccaacggg 1620
acatcgggag gaagcaccaa cgacaacacc tacttcggct acagcaccac ctgggggtat 1680
tttgacttta acagattcca ctgccacttc tcaccacgtg actggcagcg actcatcaac 1740
aacaactggg gattccggcc caagagactc aacttcaagc tcttcaacat ccagggtcaag 1800
gaggtcacgc agaataagg caccaagacc atcgccaata accttaccag cagcattcag 1860
gtctttacgg actcggaata ccagctccg tacgtcctcg gctctgcgca ccagggtgc 1920
ctgcctccgt tccggcgga cgtcttcagt attcctcagt acgggtacct gactctgaac 1980
aacggcagtc aggcctggg cgttctctc ttctactgcc tggagtactt tccttctcaa 2040
atgtgagaa cgggcaacaa ctttgagttc agctaccagt ttgaggacgt gccttttcac 2100
agcagctatg cgcacagcca aagcctggac cggctgatga acccctcat cgaccagtac 2160
ctgtactacc tgtctcggac tcagtccagc ggaggtagcg caggaaactca gcagttgcta 2220
ttttctcagg ccgggcctaa taacatgtcg gctcaggcca aaaactggct acccgggccc 2280
tgctaccggc agcaacgcgt ctccacgaca gtgtcgcaaa ataacaacag caactttgct 2340
tgacccggtg ccaccaagta tcattctgaat ggcagagact ctctggtaaa tcccggtgtc 2400
gctatggcaa cgcacaaggg cgacgaagag cgttttttc catccagcgg agtcttgatg 2460
tttgggaaac agggagctgg aaaagacaac gtggactata gcagcgttat gctaaccagt 2520
gaggaagaaa tcaaaaccac caaccagtg gccacagaac agtacggcgt ggtggccgat 2580
aacctgcaac agcaaacgc cgctcctatt gtaggggccc tcaacagtca aggagcctta 2640
cctggcatgg tctggcagaa ccgggacgtg tacctgcagg gtcctatctg ggccaagatt 2700
cctcacacgg acggcaactt tcattcctcg ccgtgatgg gaggccttgg actgaaacac 2760
ccgcctctc agatcctgat taagaatata cctgttccc cggtatcctc aactacctc 2820
agtcaagcca agctggcgtc gttcatcacg cagtacagca ccggacaggt cagcgtggaa 2880
attgaatggg agctgcagaa agagaacagc aagcgtgga acccagagat tcagtatact 2940
tccaactact acaaactctac aaatgtggac ttgtgtgtca atactgaggg tacttattca 3000
gagcctcgcc ccattggcac ccgttacctc acccgtagcc tgtaattgcc tgttaatcaa 3060
taaacogggt gattcgtttc agttgaactt tggctctctg gaaggcgaa ttc 3113

<210> 32
<211> 3113
<212> DNA
<213> new AAV serotype, clone 42.3a

<400> 32

gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt	60
gcgtcgacaa gatggtgato tgggtggagg agggcaagat gacggccaag gtctgtgagt	120
ccgccaaggc cattctcggc ggcagcaagg tgcgcgtgga ccaaaagtgc aagtcgtcog	180
cccagatcga tcccaccccc gtgatcgtca cttccaacac caacatgtgc gccgtgattg	240
acgggaacag caccaccttc gagcaccagc agccgttaca agaccggatg ttcaaatttg	300
aactcacccg ccgtctggag catgactttg gcaaggtagc aaagcaggaa gtcaaagagt	360
tcttccgctg ggcgcaggat cactgtaccg aggtggcgca tgagttctac gtcagaaagg	420
gtggagccaa caagagaccc gccccgatg acgcgataa aagcgagccc aagcggcct	480
gcccctcagt cgcggatcca tcgacgtcag acgcggaagg agctccgtg gactttgccg	540
acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg cttccctgca	600
agacatgcga gagaatgaat cagaatttca gcatttgctt cagcacggg accagagact	660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggc cgtcagaaaag aggacgtatc	720
ggaaactctg tgccattcat catctgctgg ggcgggctcc cgagattgct tgctcggcct	780
gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaaacca	840
ggtatggctg ccgatggtca tcttcagat tggtcggagg acaacctctc tgagggcatt	900
cgcgagtggc gggacttgaa acctggagcc ccgaaaccga aagccaacca gcaaaagcag	960
gacgacggcc ggggtctggt gcttctggc tacaagtacc tcggacctt caacggactc	1020
gacaaggggg agcccgtaaa cgcggcggac gcagcggccc tcgagcacga caaggcctac	1080
gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc cgacgcogag	1140
tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcgggcg agcagtcttc	1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct	1260
cctggaaaga agagacccat agaatcccc gactcctcca cgggcacgga caagaaaggc	1320
cagcagcccc ctaaaaagaa gctcaacttt gggcagactg gcgactcaga gtcagtgcc	1380
gacctcaac caatcggaga accccccgca ggcacctctg gtctgggata tgggtacaatg	1440
gctgcaggcg gtggcgctcc aatggcagac aataacgaag gcgccgacgg agtgggtagt	1500
tcctcaggaa attggcattg cgattccaca tagctgggcg acagagtcac caccaccagc	1560
accggaacct gggccctccc cacctacaac aaccacctct acaagcaaatt ctccaacggg	1620
acatcgggag gaagcaccaa cgacaacacc tacttcggct acagcaccac ctgggggtat	1680
tttgacttta acagattcca ctgccacttc tcaccacgtg actggcagcg actcatcaac	1740
aacagctggg gattccggcc caagagactc aacttcaagc tcttcaacat ccaggtcaag	1800
gaggtcacgc agaataagg caccaagacc atcgccaata accttaaccag cagcattcag	1860
gtctttacgg actcgggaata ccagctcccg tacgtcctcg gctctgcgca ccagggctgc	1920

ctgcctccgt tcccggcgga cgtcttcatg attcctcagt acgggtacct gactctgaac	1980
aacggcagtc agggcgtggg cgttctctcc ttctactgcc tggagtactt tcctttctcaa	2040
atgctgagaa cgggcaacaa ctttgagttc agctaccagt ttgaggacgt gccttttcac	2100
agcagctacg cgcacagcca aagcctggac cggctgatga accccctcat cgaccagtac	2160
ctgtactacc tgtctcggac tcagtccacg ggaggtagcg caggaaactca gcagttgcta	2220
ttttctcagg cggggcctaa taacatgtcg gctcaggcca aaaactggct acccgggccc	2280
tgctaccggc agcaacgcgt ctccacgaca ctgtcgcaaa ataacaacag caactttgct	2340
tggaccgggtg ccaccaagta tcctctgaat ggcagagact ctctggtaaa tcccgggtgc	2400
gctatggcaa cgcacaagga cgacgaagag cgattttttc catccagcgg agtcttgatg	2460
tttgggaaac agggagctgg aaaagacaac gtggactata gcagcgttat gctaaccagt	2520
gaggaagaaa tcaaaaccac caaccagtg gccacagaac agtacggcgt ggtggccgat	2580
aacctgcaac agcaaaacgc cgctcctatt gtaggggccg toaacagtca aggagcctta	2640
cctggcatgg tctggcagaa cggggacgtg tacctgcagg gtctatctg ggccaagatt	2700
cctcacacgg acggcaactt tcctccttcg ccgtgatgg gaggttttg actgaaacac	2760
ccgcctctc agatcctgat taagaatata cctgttcccg cggatcctcc aactacctc	2820
agtcaagcca agctggcgtc gttcatcacg cagtacagca ccggacaggt cagcgtggaa	2880
attgaatggg agctgcagaa agagaacagc aagcgttggg acccagagat tcagtatact	2940
tccaactact acaaactctac aaatgtggac tttgtgtca atactgaggg tactttattca	3000
gagcctcgcc ccattggcac ccgttacctc acccgtaacc tgtaattgcc tgttaatcaa	3060
taaaccgggtt aattcgtttc agttgaactt tggctctctg gaaggcgcaa ttc	3113

<210> 33
 <211> 2504
 <212> DNA
 <213> new AAV serotype, clone 42.4

<400> 33	
gaattcgccc tttctacggc tgctcaact ggaccaatga gaactttccc ttcaacgatt	60
gcgtcgacaa gatggtgatc tgggtggagg agggcaagat gacggccaag gtcgtggagt	120
ccgccaaggc cattcatcat ctgctggggc gggctcccga gattgcttgc tcggcctgcg	180
atctggtcaa cgtggacctg gatgactgtg tttctgagca ataaatgact taaaccaggt	240
atggctgcg atggttatct tccagattgg ctcgaggaca acctctctga gggcattcgc	300
gagtgggtggg acttgaaacc tggagccccg aaacccaaag ccaaccagca aaagcaggac	360
gacggccggg gtctgggtgct tcctggctac aagtacctcg gacccttcaa cggactcgac	420
aagggagagc cggtaacga ggcagacgcc gcggccctcg agcacgacaa ggcctacgac	480
aagcagctcg agcaggggga caaccctac ctcaagtaca accacgccga cgccgagttt	540

caggagcgtc ttcaagaaga tacgtctttt gggggcaacc tcgggagagc agtcttccag	600
gccaaagaagc gggttctcga acctctcggc ctggttgagg aaggcgctaa gacggctcct	660
ggaaagaaga gacctataga atccccgac tcctccacgg gcatcggcaa gaaaggccag	720
cagcccgcta aaaagaagct caactttggg cagactggcg actcagagtc agtgcccgac	780
cctcaaccaa tcggagaacc ccccgaggc ccctctggc tgggatctgg tacaatggct	840
gcaggcggtg ggcgtccaat ggcagacaat aacgaaggcg ccgacggagt gggtaatgcc	900
tccggaaatt ggcattgcga ttccacatgg ctgggagaca ggtcatcac caccagcacc	960
cgcacctggg ccctgccac ctacaacaac cacctctaca agcagatata aagtacagagc	1020
ggggctacca acgacaacca cttcttcggc tacagcacc cctggggcta ttttgacttc	1080
aacagattcc actgccactt ctcatcacgt gactggcagc gactcatcaa caacaactgg	1140
ggattccggc ccaagagact caacttcaag ctcttcaaca tccagggtcaa ggaggtcacg	1200
cagaatgaag gcaccaagac catcgccaat aaccttacca gcacgattca ggtctttacg	1260
gactcggaat accggctccc gtacgtctc ggctctgcgc accagggctg cctgcctccg	1320
ttcccgggcg agtcttcat gattcctcag tacgggtacc tgactctgaa caacggcagt	1380
caggccgtgg gccgttctc cttctactgc ctggagtact ttccttctca aatgctgaga	1440
acgggcaaca actttgagtt cagctaccag tttgaggacg tgccttttca cagcagctac	1500
gcgcacagcc aaagcctgga ccggctgatg aacccctca tcgaccagta cctgtactac	1560
ctgtctcgga ctacgtccac gggagggtacc gcaggaactc agcagttgct attttctcag	1620
gccgggccta ataacatgtc ggctcaggcc aaaaactggc taccggggcc ctgctaccgg	1680
cagcaacgcy tctccacgac actgtcgcaa aataacaaca gcaactttgc ttggaccggt	1740
gccaccaagt atcatctgaa tggcagagac tctctggtaa atcccggtgt cgtatggca	1800
acgcacaagg acgacgaaga gcgattttt ccatccagcg gagtcttgat gtttgggaaa	1860
cagggagctg gaaaagaaa cgtggactat agcagcgta tgctaaccag tgaggaagaa	1920
atcaaaacca ccaaccagt ggccacagaa cagtacggcg tggtgccga taacctgcaa	1980
cagcaaaacg ccgctcctat tgtaggggcc gtcaacagtc aaggagcctt acctggcatg	2040
gtctggcaga accgggacgt gtacctgcag gtcctatct gggccaagat tcctcacacg	2100
gacggcaact ttcctcttc gccgctgatg ggaggctttg gactgaaaca cccgcctcct	2160
cagatcctga ttaagaatac acctgttccc gcggatctc caactacctt cagtoagcc	2220
aagccggcgt cgttcatcac gcagtacagc accggacagg tcagcgtgga aattgaatgg	2280
gagctgcaga aagagaacag caagcgtgg aaccagaga ttcagtatac ttccaactac	2340
tacaaatcta caaatgtgga ctttgctgtc aatactgagg gtacttattc agagcctcgc	2400
cccattggca cccgttacct caccgtaac ctgtaattgc ctgttaatca ataaacgggt	2460

taattcgttt cagttgaact ttggtctctg cgaaggcgga attc

2504

<210> 34
 <211> 3106
 <212> DNA
 <213> new AAV serotype, clone 42.5a

<400> 34
 gaattcgccc ttctacggct ggcgcaactg gaccaatgag aactttccct tcaacgattg 60
 cgctcgacaag atggtgatct ggtgggagga gggcaagatg acggccaagg tcgtggagtc 120
 cgccaaggcc attctcggcg gcagcaagggt gcgcgtggac caaaagtgca agtcgtccgc 180
 ccagatcgac cccacccccg tgatcgtcac ctccaacacc aacatgtgcg ccgtgattga 240
 cgggaacagc accaccttcg agcaccagca gccgttgag gaccggatgt tcaaatttga 300
 actcaccgcg cgtctggagc atgactttgg caaggcgaca aagcaggaag tcaaagagtt 360
 cttccgctgg gcgcaggatc acgtgaccga ggtggcgcat gagttctacg tcagaaaggg 420
 tggagccaac aagagacccg ccccgatga cgcggataaa agcgagccca agcgggcccg 480
 cccctcagtc gcggatccat cgacgtcaga cgcggaagga gctccggtgg actttgccga 540
 caggtaccaaa aacaaatgtt ctctgcacgc gggcatgctt cagatgctgt ttccctgcaa 600
 aacatgcgag agaataatc agaatttcaa catttgcttc acgcacggga ccagagactg 660
 ttcagaatgt ttccccggcg tgtcagaatc tcaaccggtc gtcagaaaga ggacgtatcg 720
 gaaactctgt gccattcatc atctgctggg gcgggctccc gagattgctt gctcggcctg 780
 cgatctggtc aacgtggacc tggatgactg tgtttctgag caataaatga cttaaaccag 840
 gtatggctgc cgatggttat cttccagatt ggctcgagga caacctctct gagggcattc 900
 gcgagtggty ggacttgaaa cctggagccc cgaaacccaa agccaaccag caaaagcagg 960
 acgacggccg gggctctgty cttcctggct acaagtacct cggacccttc aacggactcg 1020
 acaagggaga gccgtcaac gaggcagacg ccgcccctcg cgagcacgac aaggcctacg 1080
 acaagcagct cgagcagggg gacaaccgct acctcaagta caaccacgcc gacgccgagt 1140
 ttcaggagcg tcttcaagaa gatacgtctt ttgggggcaa cctcgggaga gcagtcttcc 1200
 gggccaagaa gcgggttctc gaacctctcg gtctggttga ggaaggcgct aagacggctc 1260
 ctggaaagaa gagaccata gaatcccccg actcctccac gggcatcggc aagaaaggcc 1320
 agcagcccg ctaaaaagaag ctcaactttg gcgagactgg cgactcagag tcagtgcctg 1380
 accccaacc tctcgagaa cctcccgccg cgcctcagg tctgggatct ggtacaatgg 1440
 ctgcaggcgg tggcgacca atggcagaca ataacgaagg cggcgacgga gtgggtaatg 1500
 cctccggaaa ttggcattgc gattccacat ggctgggaga cagagtcac accaccagca 1560
 cccgcacctg ggcctgccc acctacaaca accacctcta caagcagata tcaagtcaga 1620
 gcggggctac caacgacaac cacttcttcg gctacagcac cccctggggc tattttgact 1680

tcaacagatt ccaactgccac ttctcaccac gtgactggca gcgactcatc aacaacaacc	1740
ggggattccg gccagaaaag ctgcggttca agttgttcaa catccaggtc aaggaggtca	1800
cgacgaacga cggcggttacg accatcgcta ataaccttac cagcacgatt caggtcttct	1860
cggactcggga gtaccaactg ccgtacgtcc tcggctctgc gcaccagggc tgcctccctc	1920
cgttccctgc ggacgtgttc atgattcctc agtacggata tctgactcta aacaacggca	1980
gtcagtctgt gggacgttcc tccttctact gcctggagta ctttccttct cagatgetga	2040
gaacgggcaa taactttgaa ttcagctacc agtttgagga cgtgcccttt cacagcagct	2100
acgcgcacag ccaaagcctg gaccggctga tgaacccct catcgaccag tacctgtact	2160
acctgtctcg gactcagtcc acgggaggta ccgcaggaac tcagcagttg ctattttctc	2220
aggccggggc taataacatg tcggctcagg ccaaaaactg gctaccggg ccctgctacc	2280
ggcagcaacg cgtctccacg aactgtcgc aaaataacaa cagcaacttt gcttgagccg	2340
gtgccaccaa gtatcatctg aatggcagag actctctggt aaatcccgtg gtcgctatgg	2400
caacgcacaa ggacgacgaa gagcgatttt ttccatccag cggagtcttg atgtttggga	2460
aacagggagc tggaaaagac aacgtggact atagcagcgt tatgctaacc agtgaggaag	2520
aaatcaaac caccaaccca gtggccacag aacagtacgg cgtggtggcc gataacctgc	2580
aacagcaaaa cgccgctcct attgtagggg ccgtcaacag tcaaggagcc ttacctggca	2640
tggcctggca gaaccgggac gtgtacctgc agggctctat ctggggcaag attcctcaca	2700
cggacggcaa ctttcatcct tcgccgctga tgggaggctt tggactgaaa caccgcctc	2760
ctcagatcct gattaagaat acacctgttc ccgcggatcc tccaaactacc ttcagtcaag	2820
ccaagctggc gtcgttcac acgcagtaca gcaccggaca ggtcagcgtg gaaattgaat	2880
gggagctgca gaaagagaac agcaagcgt ggaaccaga gattcagtat acttccaact	2940
actacaaatc taaaaatgtg gactttgctg tcaatactga gggtaattat tcagagcctc	3000
gccccattgg caccggttac ctcaccgta acctgtaatt gcctgttaat caataaaccg	3060
gttaattcgt ttcagttgaa ctttggtctc tgcgaagggc gaattc	3106

<210> 35
 <211> 2489
 <212> DNA
 <213> new AAV serotype, clone 42.10

<400> 35	
gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt	60
gcgtcgacaa gatggtgatc tgggtggagg agggcaagat gacggccaag gtcgtgaagt	120
ccgccaaaggc cattcatcat ctgctggggc gggctcccga gattgcttgc tcggcctgcg	180
atctgggtcaa cgtggacctg gatgactgtg tttctgagca ataaatgact taaaccaggt	240
atggctgccg atggttatct tccagattgg ctgaggaca acctctctga gggcattcgc	300

gagtgggtggg	acttgaaacc	tggagccccg	aaacccaaag	ccaaccagca	aaagcaggac	360
gacggccggg	gtctggtgct	tcctgggtac	aagtacctcg	gacccttcaa	cggactcgac	420
aagggaagagc	cggtaacga	ggcagacgcc	gcgccctcg	agcagacaa	ggcctacgac	480
aagcagctcg	agcaggggga	caaccggtac	ctcaagtaca	accacgccga	cggcgaagttt	540
caggagcgtc	ttcaagaaga	tacgtctttt	gggggcaacc	tcgggcgagc	agtcttcag	600
gccaaagaagc	gggttctcga	acctctcggt	ctggttgagg	aaggcgctaa	gacggctcct	660
ggaaagaaga	gacccataga	atcccccgac	tcctccacgg	gcacggcgag	gaaaggccag	720
cagcccgtca	aaaagaagct	caactttggg	cagactggcg	actcagagtc	agtgcccgac	780
cctcaaccaa	tcggagaacc	ccccgcaggc	ccctctggtc	tgggatctgg	tacaatggct	840
gcaggcgggtg	gcgtccaat	ggcagacaat	aacgaaggcg	ccgacggagt	gggtaatgcc	900
tccggaaatt	ggcattgcga	ttccacatgg	ctgggcgaca	gagtcacac	caccagcacc	960
cgcacctggg	ccctgccac	ctacaacaac	cacctctaca	agcagatata	aagtcagagc	1020
ggggctacca	acgacaacca	cttcttcggc	tacagcacc	cctggggcta	ttttgacttc	1080
aacagattcc	actgccactt	ctcaccacgt	gactggcagc	gactcatcaa	caacaactgg	1140
ggattccggc	ccagaaagct	gcggttcaag	ttgttcaaca	tccagggtcaa	ggaggtcacg	1200
acgaacgagc	gcgttacgac	catcgccaat	aaccttacca	gcacgattca	ggtcttctcg	1260
gactcggagt	acaaactgcc	gtacgtcctc	ggctctgcgc	accagggctg	cctccctccg	1320
ttccctgcgg	acgtgttcat	gattcctcag	tacggatata	tgactctaaa	caacggcagt	1380
cagtctgtgg	gacgttcctc	cttctactgc	ctggagtact	ttccttctca	gatgctgaga	1440
acgggcaata	actttgaatt	cagctacacc	tttgaggaag	tgcctttcca	cagcagctat	1500
gcgcacagcc	agagcctgga	ccggctgatg	aatccccctca	tcgaccagta	cctgtactac	1560
ctggccccga	cccagagcac	tacgggggtcc	acaagggagc	tgacgttcca	tcaggctggg	1620
cccaacacca	tggccgagca	atcaaagaac	tggctgcccg	gaccctgtta	tcggcagcag	1680
agactgtcaa	aaaacataga	cagcaacaac	aacagtaact	ttgcctggac	cggggccact	1740
aaataccatc	tgaatggtag	aaattcatta	accaaccggg	gcgtagccat	ggccaccaac	1800
aaggacgagc	aggaccagtt	ctttcccatc	aacggagtgc	tgggtttttg	caaaacgggg	1860
gctgccaaca	agacaacgct	ggaaaacgtg	ctaataacca	gcgaggagga	gatcaaaacc	1920
accaatcccc	tggctacaga	agaatacggg	gtgggtctcca	gcaacctgca	atcgtctacg	1980
gccggacccc	agacacagac	tgtcaacagc	cagggggctc	tgcccgccat	ggtctggcag	2040
aaccgggagc	tgtacctgca	gggtcccatc	tgggccaaaa	ttcctcacac	ggacggcaac	2100
tttcacccgt	ctccctgat	gggcggattt	ggactcaaac	acccgcctcc	tcaaattctc	2160
atcaaaaaca	ccccggtacc	tgctaatacct	ccagaggtgt	ttactcctgc	caagtttgcc	2220

tcatttatca cgcagtagag caccggccag gtcagcgtgg agatcgagtg ggaactgcag 2280
aaagaaaaca gcaaacgctg gaatccagag attcagtaca cctcaaatta tgccaagtct 2340
aataatgtgg aatttgctgt caacaacgaa ggggtttata ctgagcctcg ccccatgtggc 2400
accggttacc tcaccgtaa cctgtaattg cctgttaatc aataaacggg ttaattcggt 2460
tcagttgaac tttggtcaag ggcgaattc 2489

<210> 36
<211> 2495
<212> DNA
<213> new AAV serotype, clone 42.3b

<400> 36
gaattcgccc tttctacggc tgcgtcaact agaccaatga gaactttccc ttcaacgatt 60
gcgtcgacaa gatggtgatc tgggtggagg agggcaagat gacggccaag gtcgtggagt 120
ccgccaaggc cattcatcat ctgctggggc gggctcccga gattgcttgc tcggcctgcg 180
atctggtcaa cgtggacctg gatgactgtg tttctgagca ataatgact taaaccaggt 240
atggctgccg atggttatct tccagattgg ctgaggaca acctctctga gggcattcgc 300
gagtgggtggg acttgaaacc tggagccccg aaacccaaag ccaaccagca aaagcaggac 360
gacggccggg gtctggtgct tcttggctac aagtacctcg gacccttcaa cggactcgac 420
aagggagagc cgggtcaacga ggcagacgcc gcggccctcg agcagacaa ggcctacgac 480
aagcagctcg agcaggggga caaccgtac ctcaagtaca accacgccga cgccgagttt 540
caggagcgtc ttcaagaaga tacgtctttt gggggcaacc tcgggcgagc agtcttccag 600
gccagaagc gggttctcga acctctcggt ctggttgagg aaggcgctaa gacggctcct 660
ggaaagaaga gaccataga atccccgac tctccacgg gcacggcaa gaaaggccag 720
cagcccgcta aaaagaagct caactttggg cagactggcg actcagagtc agtgcccgac 780
cctcaaccaa tcggagaacc ccccgaggc ccctctggtc tgggatctgg tacaatggct 840
gcaggcgggtg gcgtccaat ggcagacaat aacgaaggcg ccgacggagt gggtaatgcc 900
tccggaaatt ggcattgca ttccacatgg ctgggcgaca gagtcatcac caccagcacc 960
cgcacctggg ccctgcccac ctacaacaac cacctctaca agcagatc aagtacagac 1020
ggggctacca acgacaacca cttcttcggc tacagcacc cctggggcta ttttgacttc 1080
aacagattcc actgcactt ctcaccacgt gactggcagc gactcatcaa caacaactgg 1140
ggattccggc ccagaaagct gcggttcaag ttgttcaaca tocaggtaa ggaggtcacg 1200
acgaacgagc gcgttacgac catcgctaat aacottacca gcacgattca ggtcttctcg 1260
gactcggagt accaactgcc gtacgtctc ggctctgcgc accagggctg cctccctccg 1320
ttccctgcgg acgtgttcat gattcctcag tacggatata tgactctaaa caacggcagt 1380
cagtctgtgg gacgttcctc cttctactgc ctggagtact ttccttctca gatgctgaga 1440

acgggcaata actttgaatt cagctacacc tttaggaag tgcctttcca cagcagctat 1500
 gcgcacagcc agagcctgga cgggctgatg aatccccca tcgaccagta cctgtactac 1560
 ctggcccgga ccagagcac tacgggggtcc acaaggagc tgcagttcca tcaggetggg 1620
 cccaacacca tggccgagca atcaaagaac tggctgcccg gaccctgtta tcggcagcag 1680
 agactgtcaa aaaacataga cagcaacaac accagtaact ttgcctggac cggggccact 1740
 aaataccatc tgaatggtag aaattcatta accaaccggg gcgtagccat ggccaccaac 1800
 aaggacgagc aggaccagtt ctttcccatc aacggagtgc tggtttttgg caaaacgggg 1860
 gctgccaaca agacaacgct ggaaaacgtg ctaatgacca gcgaggagga gatcaaaacc 1920
 accaatcccg tggctacaga acagtacggt gtggtctcca gcaacctgca atcgtctacg 1980
 gccggacccc agacacagac tgtcaacagc cagggggctc tgcccggcat ggtctggcag 2040
 aaccgggagc tgtacctgca ggggtcccatc tgggcaaaa ttctcacac ggacggcaac 2100
 tttcaccogt ctccoctgat gggcggattt ggactcaaac acccgccctc tcaaattctc 2160
 atcaaaaaca ccccggtacc tgctaatact ccagagggtg ttactcctgc caagtttgcc 2220
 tcatttatca cgcagtacag caccggccag gtcagcgtgg agatcgagtg ggaactgcag 2280
 aaagaaaaca gcaaacgctg gaatccagag attcagtaca cctcaaatta tgccaagtct 2340
 aataatgtgg aatttgctgt caacaacgaa ggggtttata ctgagcctcg cccatttggc 2400
 acccgttacc tcaccogtaa cctgtaattg cctgttaatc aataaacggg ttaattcgtt 2460
 tcagttgaac tttggtctct gcgaaggcg aattc 2495

<210> 37
 <211> 3098
 <212> DNA
 <213> new AAV serotype, clone 42.11

<400> 37
 gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgatc tgggtggagg agggcaagat gacggccaag gtcgtggagt 120
 ccgccaaggc cattctcggc ggcagcaagg tgcgctgga ccaaaagtgc aagtcttccg 180
 ccagatcga tcccaccccc gtgatcgtca cttccaacac caacatgtgc gccgtgattg 240
 acgggaacag caccaccttc gagcaccagc agccgttaca agaccggatg ttcaaatttg 300
 aactcaccgg ccgtctggag cagcactttg gcaagggtgac aaagcaggaa gtcaaagagt 360
 tcttcgctg ggcgcaggat cactgtaccg aggtggcgca tgagttctac gtcagaaagg 420
 gtggagccaa caagagacco gccccgatg acggggataa aagcgagccc aagcgggcct 480
 gccctcagt cgcggatcca tcgacgtcag acgggaagg agctccggtg gactttgccg 540
 acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
 agacatgcga gagaatgaat cagaatttca acatttgctt cagcacggg accggagact 660

gttcagaatg ttccccggc gtgtcagaat ctcaaccggg cgtcagaaag aggacgtatc	720
ggaaactctg tgccattcat catctgctgg ggcgggctcc cgagattgct tgctcggcct	780
gcgactctgg caacgtggac ctggatgact gtgtttctga gcaataaatg acttaaacca	840
ggtatggctg ccgatggtta tcttccagat tggctcgagg acaacctctc tgagggcatt	900
cgcgagtggg gggacttgaa acctggagcc ccgaaaccca aagccaacca gcaaaagcag	960
gacgacggcc ggggtctggg gcttcctggc tacaagtacc tcggaccctt caacggactc	1020
gacaagggag agccggtcaa cgcggcggac gcagcggccc tcgagcacga caaggcctac	1080
gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc cgacgccgag	1140
tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcggggc agcagtcttc	1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct	1260
cctggaaaga agagacccat agaatcccc gactcctcca cgggcatcgg caagaaaggc	1320
cagcagcccg ctaaaaagaa gctcaacttt gggcagactg gcgactcaga gtcagtgcc	1380
gacctcaac caatcggaga accccccgca ggccctctg gtctggggtc tggtaaatg	1440
gctgcaggcg gtggcgctcc aatggcagac aataacgaag gcgccgacgg agtgggtaat	1500
gcctccggaa attggcattg cgattccaca tggctgggcg acagagtcac caccaccagc	1560
accgcacct gggccctgcc cactacaac aaccacctc acaagcagat atcaagtcat	1620
agcggggcta ccaacgacaa ccacttcttc ggctacagca cccctgggg ctattttgac	1680
ttcaacagat tccactgcca cttctcacca cgtgactggc agcgactcat caacaacaac	1740
tggggattcc ggcccagaaa gctgcgggtc aagttgttca acatccaggt caaggaggtc	1800
acgacgaacg acggcggtac gaccatcgct aataacctta ccagcacgat tcaggtcttc	1860
tcggactcgg agtaccaact gccgtacgtc ctcggtctg cgcaccaggg ctgcctccct	1920
ccgttccctg cggacgtggt catgattcct cagtacggat atctgactct aaacaacggc	1980
agtcagtctg tgggacgttc ctctttctac tgccctggag actttccttc tcagatgctg	2040
agaacgggca ataactttga attcagctac acctttgagg aagtgccttt ccacagcagc	2100
tatgcgcaca gccagagcct ggaccggctg atgaatcccc tcacgacca gtacctgtac	2160
tacctggccc ggaccagag cactacgggg tcacaaagg agctgcagtt ccacaggt	2220
gggccaaca ccatggccga gcaatcaaag aactggctgc ccggaccctg ttatcggcgg	2280
cagagactgt caaaagacat agacagcaac aacaacagta actttgcctg gaccggggcc	2340
actaaatacc atctgaatgg tagaaattca ttaaccaacc cgggcgtagc catggccacc	2400
aacaaggacg acgaggacca gttctttccc atcaacggag tgctggtttt tggcaaacg	2460
ggggtgcc acaagacaac gctggaaaac gtgctaata ccagcgagga ggagatcaaa	2520
accaccaatc ccgtggctac agaagaatac ggtgtggtct ccagcaacct gcaatcgtct	2580

acggccggac cccagacaca gactgtcaac agccaggggg ctctgcccgg catggtcttg 2640
cagaaccggg acgtgtacct gcagggtccc atctgggcca aaattcctca cacggacggc 2700
aactttcacc cgtctcccct gatgggcgga tttggactca aacaccgcc tctcaaat 2760
ctcatcaaaa acaccccggt acctgctaata cctccagagg tgtttactcc tgccaagttt 2820
gcctcattta tcacgcagta cagcaccggc caggtcagcg tggagatcga gtgggaactg 2880
cagaaagaga acagcaaacy ctggaatcca gagattcagt acacctcaaa ttatgccaa 2940
tctaataatg tggaaatttg tgtcaacaac gaaggggttt atactgagcc tcgccccatt 3000
ggcaccggtt acctcaccg taacctgtaa ttacttgta atcaataaac cggttgattc 3060
gtttcagttg aactttggtc tctgcgaagg gcgaattc 3098

<210> 38
<211> 3276
<212> DNA
<213> new AAV serotype, clone 42.6a

<400> 38
gaattcgccc ttgcagaga ccaaagttca actgaaacga attaacgggt ttattgatta 60
acaggcaatt acaggttacg ggtgaggtaa cgggtgccaa tggggcgagg ctcagtataa 120
accccttcgt tgttgacagc aaattccaca ttattagact tggcataatt tgagggtgac 180
tgaatctctg gattccagcg tttgctgttt tctttctgca gttccactc gatctccacg 240
ctgacctggc cgggtgctgta ctgcgtgata aatgaggcaa acttggcagg agtaaacc 300
tctggaggat tagcaggtag cggggtgttt ttgatgagaa tttgaggagg cgggtgtttg 360
agtccaaatc cgtccatcag gggagacggg tgaaagtgtc cgtccgtgtg aggaattttg 420
gccagatgg gaccctgcag gtacacgtcc cggttctgcc agaccatgcc gggcagagcc 480
ccctggctgt tgacagtctg tgtctggggc cggccgtag acgattgcag gttgctggag 540
accacaccgt attcttctgt agccacggga ttggtggttt tgatctctc ctgctggtc 600
attagcacgt tttccagcgt tgtctgtttg gcagccccc ttttgccaa aaccagcact 660
cgttgatgg gaaagaactg gtcctcgtcg tccttggttg tggccatggc tacgccggg 720
ttggttaatg aatttctacc attcagatgg tatttagtgg ccccggtcca ggcaaagtta 780
ctgttggtgt tgtgtctat gttttttgac agtctctgct gccgataaca ggggtccggc 840
agccagttct ttgattgctc ggccatggtg ttgggcccag cctgatggaa ctgcagctcc 900
cttgtggacc cgttagtgct ctgggtccgg gccaggtagt acaggtagt gtcgatgagg 960
ggattcatca gccgggtccag gctctggcta tgcgcatagc tgcgtggaa aggcacttcc 1020
tcaaagggtg agctgaattc aaagtattg cccgttctca gcatctgaga aggaaagtac 1080
tccaggcagt agaaggagga acgtcccaca gactgactgc cgttggttag agtcagatat 1140
ccgtactgag gaatcatgaa cacgtccgca gggaacggag ggaggcagcc ctggtgcgca 1200

gagccgagga cgtacggcag ttggtactcc gagtccgaga agacctgaat cgtgctggta 1260
aggttattag cgatggtcgt aacgcgctcg tccgtcgtga cctccttgac ctggatgttg 1320
aacaacttga accgcagctt tctgggccgg aatccccagt tgttgttgat gagtcgctgc 1380
cagtcacgtg gtgagaagtg gcagtggaat ctgttaaagt caaaataccc ccaggggggtg 1440
ctgtagccga agtaggtgtt gtcgttggtg cttcctcccg atgtcccgtt ggagatttgc 1500
ttgtagaggt ggttgttgta ggtggggagg gcccaggttc gggtgctggt ggtgatgact 1560
ctgtcgccca gccatgtgga atcgcaatgc caatttcctg aggaactacc cactccgtcg 1620
gcgccttcgt tattgtctgc cattggagcg ccaccgcctg cagccattgt accagatccc 1680
agaccagagg gccctgcggg gggttctccg attggttgag ggtcgggcac tgactctgag 1740
tcgccagtct gcccaaagtt gagtctcttt ttccggggct gctggcctgt cttgccgatg 1800
ccgtagagg agtctggaga acgctggggt gatggctcta ccgggtctct ctttcaggga 1860
gccgtcttag cgccttcctc aaccagaccg agaggttcga gaaccgcctt cttggcctgg 1920
aagactgctc gcccgagggt gccccaaaa gacgtatctt cttgaagacg ctctgaaac 1980
tcggcgctcg cgtggttgta cttgaggtag gggttgtccc cctgctcgag ctgcttgtcg 2040
taggccttgt cgtgctcgag gcccgcgcg tctgcctcgt tgaccggctc tcccttgtcg 2100
agtcogttga agggcccgag gtactttag ccaggaagca ccagaccccg gccgtcgtcc 2160
tgcttttgct ggttggtttt gggtttcggg gctccagggt tcaagtccca ccactcgcga 2220
atgccctcag agaggttgtc ctcgagccaa tctggaagat aaccatcggc agccatacct 2280
ggtttaagtc atttattgct cagaaacaca gtcattccagg tccacgttga ccagatcgca 2340
ggccgagcaa gcaatctcgg gagcccgcgc cagcagatga tgaatggcac agagtctccg 2400
atacgtcctc tttctgacga ccggttgaga ttctgacacg ccggggaaac attctgaaca 2460
gtctctggtc ccgtgcgtga agcaaatgtt gaaattctga ttcattctct cgcattgtct 2520
gcagggaaac agcatctgaa gcatgccgc gtgacgagaa cacttgtttt ggtacctgtc 2580
ggcaaagtcc accggagctc cttccgcgtc tgacgtcgat ggatgcaaaa tgtcgcaaaa 2640
gcactcacgt gacagctaata acaggaccac tcccctatga cgtgatttac gtcagcgcta 2700
tgcccgcgtg acgagaacat ttgttttggg acctgtcggc aaagtccacc ggagctcctt 2760
ccgcgtctga cgtcgatgga tccgcgactg aggggcaggc ccgcttgggc tcgcttttat 2820
ccgcgtcatc gggggcggtt ctcttgttg ctcaccctt tctgacgtag aactcatgcy 2880
ccacctcgtt cactgatcc tgcgccagc ggaagaactc tttgacttcc tgetttgtca 2940
ccttgccaaa gtcattgtcc agacggcggg tgagttcaaa tttgaacatc cgtcctgca 3000
acggctgctg gtgctcgaag gtggtgctgt tcccgtaaat caccgcgcac atgttggtgt 3060
tggaagtgc gatcacgggg gtgggacga tctgggcgga agacttgcac ttttgggtcca 3120

cgcgacactt gctgccgccg agaatggcct tggcggactc cagaccttg gccgtcatct 3180
 tgccctctct ccaccagatc accatcttgt cgacgcaatc gttgaaggga aagttctcat 3240
 tgggtccagtt gacgcagccg tagaaagggc gaattc 3276

<210> 39
 <211> 3084
 <212> DNA
 <213> new AAV serotype, clone 43.1

<400> 39
 gaattcgccc tttctacggc tgcataact ggaccaatga gaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgata tgggtggagg agggcaagat gacggccaag gtcgtggagt 120
 ccgccaaggc cattctcggc ggcagcaagg tgcgcgtgga ccaaaagtgc aagtcgtccg 180
 cccagatcga cccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg 240
 acgggaacag caccaccttc gagcaccagc agccgttgca ggaccggatg ttcaagttcg 300
 aactcaccgc ccgtctggag cagactttg gcaagggtgac caagcaggaa gtcaaagagt 360
 tcttccgctg ggcgcaggat cactgacgc aggtggcgca tgagttctac gtcagaaagg 420
 gcggagccag caaaagaccg gccccgatg acgcggatat aagcgagccc aagcgggcct 480
 gccctcagtc cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgcgc 540
 acaggtaacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
 aaacgtgcga gaaaatgaat cagaatttca acatttgctt cagcacggg gtcagagact 660
 gtcagaatg tttccccggt gcatcagaat ctcaaccggc cgtcagaaaa aaaacgtatc 720
 agaaactgtg tgccattcat catctgctgg gcggggcacc cgagattgct tgctcggcct 780
 gcgatctggt caacgtggac ctggacgact gtgtttctga gcaataaatg acttaacca 840
 ggtatggctg ccgatggtta tcttccagat tggcttgagg acaacctctc tgagggcatt 900
 cgcgagtggg gggacctgaa acctggagcc ccgaaaccca aagccaacca gcaaaagcag 960
 gacgacggcc ggggtctggt gcttcttggc tacaagtacc tcggaccctt caacggactc 1020
 gacaaggggg agcccgtaaa cgcggcggac gcagcggcc tcgagcacga caaggcctac 1080
 gaccagcagc tcaaagcggg tgacaatccg tacctcgggt ataaccacgc cgacgccgag 1140
 tttcaggagc gtctgcaaga agatacgtct tttgggggca acctcgggag agcagtcttc 1200
 caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260
 cctggaaaga agagaccggt agagccatca cctcagcgtt ccccgactc ctccacgggc 1320
 atcggcaaga aaggccacca gcccgcgaga aagagactga actttgggca gactggcgac 1380
 tcggagtcag tccccgacc tcaaccaatc ggagaaccac cagcaggccc ctctggtctg 1440
 ggatctggtg caatggctgc aggcgggtggc gctccaatgg cagacaataa cgaaggcgcc 1500
 gacggagtgg gtagttctc aggaattgg cattgcgatt ccacatggct gggcgacaga 1560

gtcatcacca ccagcaccog aacctggggcc ctgcccacct acaacaacca tctcta'caag 1620
 caaatctcca acgggacato gggaggaagc actaacgaca acacctactt tggctacagc 1680
 accccctggg ggtattttga cttcaacaga ttccactgcc acttctcacc acgtgactgg 1740
 cagcgactca tcaacaataa ctggggattc cggccaaga gactcaactt caagctcttc 1800
 aacatccagg tcaaggaggt cagcgagaat gaaggcaccā agaccatcgc caataacctt 1860
 accagcacga ttcagggtgtt tacggactcg gaataccagc tcccgtagct ccccggtctt 1920
 ggcgaccagg gctgcctccc tccgttcccg gcggacgtct tcatgattcc tcagtacggg 1980
 tatctgaccc taaacaatgg cagtcaggct gtggggcgtt cctccttcta ctgcctggaa 2040
 tacttccctt ctcaaagtct gaggacgggc aacaactttg aattcagcta caccttcgag 2100
 gacgtgcctt tccacagcag ctacgcgcac agccagagcc tggaccggt gatgaaccct 2160
 ctcatcgacc agtacctgta ttacttatcc agaactcagt ccacaggagg aactcaagggt 2220
 actcagcaat tgttattttc tcaagccggg cccgcaaaca tgtcggctca ggccaagaac 2280
 tggctacctg gaccgtgtta ccgtcagcaa cgagtttcca cgacactgtc gcaaaacaac 2340
 aacagcaatt ttgcttgga cgggtgccacc aagtatcacc tgaatggcag agactccctg 2400
 gttaatcccg gcgttgccat ggctaccac aaggacgacg aggagcgctt cttcccgta 2460
 agcggagttc taatgtttgg caagcagggg gctggaaaag acaatgtgga ctacagcagc 2520
 gtgatgctca ccagogaaga agaaattaaa actactaacc cagtgggtac agagcagtat 2580
 ggtgtggtgg cagacaacct gcagcagacc aacggagctc ccattgtggg aactgtcaac 2640
 agccaggggg ccttacctgg tatggtctgg caaaaccggg acgtgtacct gcagggcccc 2700
 atctgggcca aaattcctca caccgacggc aactttcatc cttcgccgct gatgggaggc 2760
 tttggactga aacaccgcc tccctcagatc ctggtgaaaa aactcctgt tccctcggtat 2820
 cctcogacca ccttcagcca ggccaagctg gcttctttta tcacgcagta cagcaccgga 2880
 caggtcagcg tggaatcga atgggagctg cagaaagaaa acagcaagcg ctggaaccca 2940
 gagattcagt atacttccaa ctactacaaa tctacaaatg tggactttgc tgtaataact 3000
 gagggtaactt attcagagcc tcgccccatt ggcactcgtt atctcaccgg taatctgtaa 3060
 ttgcttggtta atcaataaac cggt 3084

<210> 40
 <211> 2370
 <212> DNA
 <213> new AAV serotype, clone 43.5

<400> 40
 gaattcgccc tttctacggc tgogtcaact ggaccaatga gaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgatc tgggtgggagg agggcaagat gacggccaag gtcgtggagt 120
 ccgccaaggc cattctcggc ggcagcaagg tgcgcgtgga ccaaaagtgc aagtcgtccg 180

cccagatcga cccaccccc gtgatogtca cctccaacac caacatgtgc gccgtgattg	240
acgggaacag caccaccttc gagcaccagc agccgttgca ggaccggatg ttcaagtctg	300
aactcaccgg ccgtctggag cacgactttg gcaagggtgac caagcaggaa gtcaaagagt	360
tcttccgctg ggccgaggat cactgaccg aggtggcgca tgagttctac gtcagaaagg	420
gcgagaccag caaaagaccc gcccggatg acgcgatat aagcgagccc aagcgggcct	480
gcccctcagt cgcggtacca tcgacgtcag acgcggaagg agtccgggtg gactttgccg	540
acaggtacca aaacaaatgt tctcgtcacg cgggcattgt tcagacgctg tttccctgca	600
aaacgtgcga gagaatgaat cagaatttca acatttgctt cagcacggg gtcagagact	660
gctcagaatg tttccccggg gcatcagaat ctcaaccggg cgtcagaaaa aaaacgtatc	720
agaaactgtg tgccattcat catctgctgg ggccgggcacc cgagattgct tgcctggcct	780
gcgatctggt caacgtggac ctggacgact gtgtttctga gcaataaatg acttaacca	840
ggtatggctg ccgatgggta tcttccagat tggcttgagg acaacctctc tgagggcatt	900
cgcgagtggg gggacctgaa acctggagcc ccgaaaccca aagccaacca gcaaaagcag	960
gacgacggcc ggggtctggt gcttcctggc tacaagtacc tcggaccctt caacggactc	1020
gacaaggggg agcccgtaaa cgccggcgac gcagcggccc tcgagcacga caaggcctac	1080
gaccagcagc tcaaagcggg tgacaatccg tacctgcggg ataaccacgc cgacgccgag	1140
tttcaggagc gtctgcaaga agatacgtct tttgggggca acctcggggc agcagtcttc	1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct	1260
cctgaaaaga agagaccggg agagccatca cctcagcgtt ccccgactc ctcacgggc	1320
atcggcaaga aagccacca gcccgcgaga aagagactga actttgggca gactggcgac	1380
tcggagttag tccccgaccc tcaaccaatc ggagaaccac cagcaggccc ctctggtctg	1440
ggatctggta caatggctgc agcggtggc gctccaatgg cagacaataa cgaaggcgcc	1500
gacggagtgg gtagttctc aggaattgg cattgcgatt ccacatgggt gggcgacaga	1560
gtcatcacca ccagcaccgg aacctgggccc ctgccacct acaacaacca tctctacaag	1620
caaattctca acgggacatc gggaggaagc actaacgaca acacctactt tggctacagc	1680
acccctggg ggtattttga cttcaacaga ttccactgcc acttctcacc acgtgactgg	1740
cagcgactca tcaacaataa ctggggattc cggcccaaga gactcaactt caagctcttc	1800
aacatccagg tcaaggaggt cagcgagaat gaaggcacca agaccatcgc caataacctt	1860
accagcacga ttcaggtgtt tacggactcg gaataccagc tcccgtacgt cctcggtct	1920
gcgaccagg gctgcctccc tccgttcccg gggacgtct tcatgattcc tcagtacggg	1980
tatctgacct taaacaatgg cagtcaggct gtgggccgtt cctccttcta ctgcctggaa	2040
tacttccctt ctcaaagtgt gaggacgggc aacaactttg aattcageta caccttcgag	2100

gacgtgcctt tccacagcag ctacgcgcac agccagagcc tggaccggct gatgaaccct 2160
ctcatogacc agtacctgta ttacttatcc agaactcagt ccacaggagg aactcaaggt 2220
actcagcaat tgttattttt tcaagccggg cccgcaaaca tgygggtca ggccaagaac 2280
tggctacctg gaccgtgtta ccgtcagcaa cgagtttcca cgacactgtc gcaaaacaac 2340
aacagcaatt ttgctggacc ggtgccacca 2370

<210> 41
<211> 3123
<212> DNA
<213> new AAV serotype, clone 43.12

<400> 41
gaattcgccc ttggtgcgt caactggacc aatgagaact ttcccttcaa cgattgcgtc 60
gacaagatgg tgatctggtg ggaggaggc aagatgacgg ccaaggctgt ggagtccgcc 120
aaggccattc tcggcggcag caagggtgcg gtggaccaa agtgcaagtc gtccgccag 180
atcgacccca cccccgtgat cgtcacctcc aacaccaaca tgtgcgccgt gattgacggg 240
aacagcacca ccttcagaca ccagcagccg ttgcaggacc ggatgttcaa gttcgaactc 300
acccgccgtc tggagcacga ctttggcaag gtgaccaagc aggaagtcaa agagttcttc 360
cgctggggcg aggatcacgt gaccgagggt gcgcatgagt tctacgtcag aaagggcgga 420
gccagcaaaa gaccgcgcc cgtgacgcg gatataagcg agccaagcg ggcctgcccc 480
tcagtgcggg atccatcgac gtcagacgcg gaaggagctc cgggtggactt tgccgacagg 540
taccaaaaca aatgttctcg tcacgcgggc atgctccaga tgctgtttcc ctgcaaaacg 600
tgcgagagaa tgaatcagaa tttcaacatt tgcttcacgc acggggtcag agactgctca 660
gaatgtttcc ccggtgcac agaattctca ccggtcgtca gaaaaaaaaac gtatcagaaa 720
ctgtgtgcca ttcacatct gctggggcgg gcaccogaga ttgcttgctc ggcctgcgat 780
ctggtcaacg tggacctgga cgactgtgtt tctgagcaat aaatgactta aaccaggtat 840
ggctgccgat gggtatcttc cagattggct tgaggacaac ctctctgagg gcattcgga 900
gtggtgggac ctgaaacctg gagccccgaa acccaaagcc aaccagcaaa agcaggacga 960
cgccgggggt ctggtgcttc ctggtacaa gtacctcgga cccttcaacg gactcgacaa 1020
gggggagccc gtcaacgcgg cggacgcagc ggccctcgag cagacaagg cctacgacca 1080
gcagctcaaa ggggtgaca atccgtacct gcggtataac cagccgacg ccgagtttca 1140
ggagcgtctg caagaagata cgtcttttgg gggcaacctc gggcgagcag tcttccaggc 1200
caagaagcgg gttctcgaa ctctcgggtc ggttgaggaa ggcgctaaga cggctcctgg 1260
aaagaagaga ccggtagagc catcacctca gcgttcccc gactcctcca cgggcatcgg 1320
caagaaggg caccagcccg cgagaaagag actgaacttt gggcagactg gcgactcgga 1380
gtcagtcccc gaccctcaac caatcggaga accaccagca ggcccctctg gtctgggac 1440

tggtacaatg gctgcaggcg gtggcgctcc aatggcagac aataacgaag gcgccgacgg	1500
agtgggtagt tcctcaggaa attggcattg cgattccaca tggtggggcg acagagtcac	1560
caccaccagc acccgaacct ggccctgcc cacctacaac aaccatctct acaagcaa	1620
ctccaacggg acatcgggag gaagcactaa cgacaacacc tactttggct acagcacc	1680
ctgggggtat tttgacttca acagattcca ctgccacttc tcaccacgtg actggcagcg	1740
actcatcaac aataactggg gattccggcc caagagactc aacttcaagc tcttcaacat	1800
ccaggtcaag gaggtcacgc agaataagg caccaagacc atcgccaata accttaccag	1860
cacgattcag gtgtttacgg actcggaata ccagctcccg tacgtcctcg gctctgcgca	1920
ccagggctgc ctccctcgt tcccgccgga cgtcttcacg attcctcagt acgggtatct	1980
gaccctaaac aatggcagtc aggtgtggg ccgttcctcc ttctactgcc tggaatactt	2040
cccttctcaa atgctgagga cgggcaacaa ctttgaattc agctacacct tcgaggacgt	2100
gcctttccac agcagctacg cgcacagcca gagcctggac cggctgatga accctctcat	2160
cgaccagtac ctgtattact tatccagaac tcagtccaca ggaggaactc aaggctactca	2220
gcaattgtta ttttctcaag ccgggcccgc aaacatgtcg gctcaggcca agaactggct	2280
acctggaccg tgttaccgtc agcaacgagt ttccacgaca ctgtcgcaaa acaacaacag	2340
caattttgct tggaccggtg ccaccaagta tcacctgaat ggagagact ccctgggttaa	2400
tcccgcggtt gccatggcta cccacaagga cgacgaggag cgcttcttcc cgtcaagcgg	2460
agttctaata tttggcaagc agggggctgg aaaagacaat gtggactaca gcagcgtgat	2520
gctcaccagc gaagaagaaa ttaaaactac taaccagtg gctacagagc agtatggtgt	2580
ggtggcagac aacctgcagc agaccaacgg agctcccat gtgggaactg tcaacagcca	2640
gggggcctta cctggtatgg tctggcaaaa ccgggacgtg tacctgcagg gccccatctg	2700
ggccaaaatt cctcacacgg acggcaactt tcctccttcg ccgctgatgg gaggtttgg	2760
actgaaacac ccgcctctc agatcctggt gaaaaaact cctgttcttg cggatcctcc	2820
gaccaccttc agccaggcca agctggcttc ttttatcag cagtacagca ccggacaggt	2880
cagcgtggaa atcgaatggg agctgcagaa agaaaacagc aagcgtgga acccagagat	2940
tcagtatact tccaactact acaaatctac aaatgtggac tttgctgtca atactgagg	3000
tacttattca gagcctcgcc ccattggcac tcgttatctc acccgtaac tgtaattgct	3060
tggttaatcaa taaaccggtt aattcgtttc agttgaactt tggctctctg gaaggcgaa	3120
ttc	3123

<210> 42
 <211> 3122
 <212> DNA
 <213> new AAV serotype, clone 43.20

<400> 42

gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt	60
gcgtcgacaa gatggtgac tggtgggagg agggcaagat gacggccaag gtcgtggagt	120
ccgccaaggc cattctcggc ggcagcaagg tgcgtgtgga ccaaagtgc aagtcttcg	180
cccagatcga tcccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg	240
acgggaacag cgccaccttc gagcaccagc agccgttgca ggaccggatg ttcaaatttg	300
aactcaccgc ccgtctggag catgactttg gcaagggtgac gaagcaggaa gtcaaagagt	360
tcttcgcgtg ggcgcaggat cacgtgaccg aggtggcgca tgagttccac gtcagaaagg	420
gtggagccaa caagagaccc gccccgatg acgcggatat aagcgagccc aagcgggcct	480
gcccctcagt cgcggatcca tcgaogtcag acgcggaagg agctccggtg gactttgccg	540
acaggtagca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca	600
agacatgcga gagaatgaat cagaatttca acatttgctt cagcacggg accagagact	660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggc cgtcagaaag aggacgtac	720
ggaaactctg tgcgattcat catctgctgg ggcgggctcc cgagattgct tgctcggcct	780
gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaacca	840
ggtatggctg ccgatggta tcttcagat tggtctgagg acaacctctc tgagggcatt	900
cgcgagtggg gggacttgaa acctggagcc ccgaaaccca aagccaacca gcaaaagcag	960
gaogacggcc ggggtctggt gcttctcggc tacaagtacc tcggaccctt caacggactc	1020
gacaaggggg agcccgtcaa cgcggcggac gcagcggccc tcgagcacga caaagcctac	1080
gaccagcagc tcaaagcggg tgacaatccg tacctgoggt ataatoacgc cgacgccgag	1140
tttcaggagc gtctgcaaga agatacgtct tttgggggca acctcgggag agcagtcttc	1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct	1260
cctggaaga agagactggt agagcagtcg ccacaagagc cagactcctc ctccggcatc	1320
ggcaagacag gccagcagcc cgctaaaaag agactcaatt ttggtcagac tggcgactca	1380
gagtcagtcc ccgacccaca acctctcgga gaacctccag cagccccctc aggtctggga	1440
cctaatacaa tggcttcagg cgggtggcgt ccaatggcag acaataacga aggcgccgac	1500
ggagtgggta attcctcggg aaattggcat tgcgattcca catggctggg ggacagagtc	1560
atcaccacca gcaccgaac ctgggccctg cccacctaca acaaccacct ctacaagcaa	1620
atctccaacg gcacctcggg aggaagcacc aacgacaaca cctattttgg ctacagcacc	1680
ccctgggggt attttgactt caacagattc cactgtcact tttcaccacg tgactggcaa	1740
cgactcatca acaacaattg gggattccgg ccaaaaagac tcaacttcaa gctgttcaac	1800
atccagggtca aggaagtcac gacgaacgaa ggcaccaaga ccatcgccaa taatctcacc	1860
agcacctgac aggtctttac ggactcggag taccagttac cgtacgtgct aggatccgct	1920

caccagggat gtctgcctcc gttcccggcg gacgtcttca cggttcctca gtacggctat 1980
ttaactttaa acaatggaag ccaagccctg ggacgttccct ccttctactg tctggagtat 2040
ttcccacgc agatgctgag aaccggcaac aactttcagt tcagctacac cttcgaggac 2100
gtgcctttcc acagcagcta cgcgcacagc cagagcctgg acaggctgat gaatcccctc 2160
atcgaccagt acctgtacta cctggtcaga acgcaaacga ctggaactgg agggacgcag 2220
actctggcat tcagccaagc gggtcctagc tcaatggcca accaggctag aaattgggtg 2280
cccggacctt gctaccggca gcagcgcgtc tccacgacaa ccaaccagaa caacaacagc 2340
aactttgcct ggacgggagc tgccaagttt aagctgaacg gccgagactc tctaataaat 2400
ccgggcgtgg caatggcttc ccacaaggat gacgacgacc gcttcttccc ttcgagcggg 2460
gtcctgattt ttggcaagca aggagccggg aacgatggag tggattacag ccaagtgcgt 2520
attacagatg aggaagaaat caaggctacc aaccccgtag ccacagaaga atatggagca 2580
gtggccatca acaaccaggc cgccaatacg caggcgcaga ccggactcgt gcacaaccag 2640
ggggtgattc ccggcatggt gtggcagaat agagacgtgt acctgcaggg tcccatctgg 2700
gccaaaattc ctcacacgga cggcaacttt caccgcgtct ccctgatggg cggctttgga 2760
ctgaagcacc cgcctcctca aattctcatc aagaacacac cggttccagc ggaccgcgcg 2820
cttaccttca accaggccaa gctgaactct ttcacacgc agtacagcac cggacaggtc 2880
agcgtggaaa tcgagtggga gctgcagaaa gaaaacagca aacgctggaa tccagagatt 2940
caatacactt ccaactacta caaatctaca aatgtggact ttgctgtcaa cacggaagga 3000
gtttatagcg agcctcgccc cattggcacc cgttacctca cccgcaacct gtaattacat 3060
gttaataaat aaaccggtta attcgtttca gttgaacttt ggtctctgcg aagggcgaat 3120
tc 3122

<210> 43
<211> 3117
<212> DNA
<213> new AAV serotype, clone 43.21

<400> 43
gaattcgccc ttggctgcgt caactggacc aatgagaact ttcccttcaa cgattgcgtc 60
gacaagatgg tgatctggtg ggaggagggc aagatgacgg ccaaggctcgt ggagtcggcc 120
aaggccattc tcggcggcag caaggctgct gtggacaaa agtgcaagtc ttccgccag 180
atgatccca ccccgatgat cgtcacctcc aacaccaaca tgtgcgcctg gattgacggg 240
aacagcacca ccttcgagca ccagcagccg ttgcaggacc ggatgttcaa atttgaactc 300
acccgccgtc tggagcatga ctttggcaag gtgacgaagc aggaagtcaa agagttcttc 360
cgctggggcg aggatcacgt gaccgaggtg gcgcatgagt tccacgtcag aaagggtgga 420

gccacaaga gacccgcccc cgatgacgcg gatataagcg agcccaagcg ggccctgcccc	480
tcagtgcggy atccatcgac gtcagacgcy gaaggagctc cgggtggactt tgccgacaggy	540
tacaaaaaca aatgtttctcg tcacgcyggc atgcttcaga tgctgtttcc ctgcaagaca	600
tgcgagagaa tgaatcagaa tttcaacatt tgcttcacgc acgggaccag agactgttca	660
gaatgtttcc ccggcgtgtc agaattctcaa ccggctcgtca gaaagaggac gtatcggaaa	720
ctctgtgcga ttcacatctct gctggggcgy gctcccgaga ttgcttgctc ggccctgcgat	780
ctggtcaacg tggacctgga tgactgtgtt tctgagcaat aaatgactta aaccaggtat	840
ggctgccgat ggttatcttc cagattggct cgaggacaac ctctctgagg gcattcgcga	900
gtggtgggac ttgaaacctg gagccccgaa acccaaagcc aaccagcaaa agcaggacga	960
cggccgggggt ctggtgcttc ctggctacaa gtacctcgga cccttcaacg gactcgacaa	1020
gggggagccc gtcaacgcyg cggacgcagc ggccctcgag cagacaaaag cctacgacca	1080
gcagctcaaa gcyggtgaca atccgtacct gcggtataat cagccgacg ccgagtttca	1140
ggagcgtctg caagaagata cgtcttttgg gggcaacctc gggcgagcag tcttcaggc	1200
caagaagcgy gttctcgaa ctctcgtctt ggttgaggaa ggcgctaaga cggctcctgy	1260
aaagaagaga ccggtagagc agtcgccaca agagccagac tcctcctcgy gcacgcgcaa	1320
gacaggccag cagcccgcta aaaagagact caattttggt cagactggcg actcagagtc	1380
agtcccgac ccacaacctc tcggagaacc tccagcagcc ccctcaggtc tgggacctaa	1440
tacaatggct tcaggcgytg gcgctccaat ggcagacaat aacgaaggcg ccgacggagt	1500
gggtaattcc tcgggaaatt ggcattgcga ttccacatgg ctgggggaca gagtcatcac	1560
caccagcacc cgaacctggg ccctgcccac ctacaacaac cactctaca agcaaatctc	1620
caacggcacc tcgggaggaa gcaccaacga caacacctat tttggctaca gcacccctg	1680
ggggtatttt gacttcaaca gattccactg tcacttttca ccacgtgact ggcaacgact	1740
catcaacaac aattggggat tccggcccaa aagactcaac ttcaagctgt tcaacatcca	1800
ggtcaaggaa gtcacgacga acgaaggcac caagaccatc gccataatc tcaccagcac	1860
cgtgcgggtc tttacggact cggagtacca gttaccgtac gtgctaggat ccgctacca	1920
gggatgtctg cctccgttcc cggcgagcgt cttcatgggt cctcagtacg gctatttaac	1980
tttaacaat ggaagccaag ccctgggacg ttctccttcc tactgtctgy agtatttccc	2040
atcgcatatg ctgagaaccg gcaacaactt tcagttcagc tacaccttcg aggacgtgcc	2100
tttccacagc agctacgcgc acagccagag cctggacagg ctgatgaatc ccctcatcga	2160
ccagtacctg tactacctgg tcagaacgca aacgactgga actggaggga cgcagactct	2220
ggcattcagc caagcgggtc ctagtccaat ggccaaccag gctagaaatt ggtgcccgy	2280
accttgctac cggcagcagc gcgtctccac gacaaccaac cagagcaaca acagcaactt	2340

tgccctggacg ggagctgcc agtttaagct gaacggccga gactctctaa tgaatccggg 2400
 cgtggcaatg gcttcccaca aggatgacga cgaccgcttc ttcccttcga gcggggtcct 2460
 gattttttggc aagcaaggag ccgggaacga tggagtggat tacagccaag tgctgattac 2520
 agatgaggaa gaaatcaagg ctaccaaccc cgtggccaca gaagaatatg gagcagtggc 2580
 catcaacaac caggccgcca atacgcaggc gcagaccgga ctctgtgcaca accagggggg 2640
 gattccccggc atggtgtggc agaatagaga cgtgtacctg caggggtcca tctgggcca 2700
 aattcctcac acggacggca actttcaccc gtctcccttg atggggggct ttggactgaa 2760
 gcaccgcct cctcaaattc tcatcaagaa cacaccggtt ccagcggacc cgccgcttac 2820
 cttcaaccag gccaagctga actctttcat cagcgagtac agcaccggac aggtcagcgt 2880
 ggaaatcgag tgggagctgc agaaagaaaa cagcaaacgc tggaaatccag agattcaata 2940
 cacttccaac tactacaaat ctacaaatgt ggactttgct gtcaacacgg aaggagttaa 3000
 tagcgagcct cgccccattg gcaccggtta cctcaccgc aacctgtaat tacatgttaa 3060
 tcaataaacc ggttaattcg tttcagttga actttgggtct ctgcgaaggg cgaattc 3117

<210> 44
 <211> 3121
 <212> DNA
 <213> new AAV serotype, clone 43.23

<400> 44
 gaattcgccc ttctaaggct gcgtaactg gaccaatgag aactttccct tcaacgattg 60
 cgtcgacaag atggtgatct ggtgggagga gggcaagatg acggccaagg tcgtggagtc 120
 cgccaaggcc attctcggcg gcagcaagggt gcggtgtggac caaaagtga agtcttccgc 180
 ccagatcgat cccacccccg tgatcgtcac ctccaacacc aacatgtgcg ccgtgattga 240
 cgggaacagc accaccttcg agcaccagca gccgttgag gaccggatgt tcaaatttga 300
 actcaccgc cgtctggagc atgacttttg caaggtgacg aagcaggaag tcaaagagtt 360
 cttccgctgg gcgcaggatc acgtgaccga ggtggcgcat gagttccacg tcagaaaggg 420
 tggcgccaac aagagacccg ccccgatga cgggatata agcgagcca agcgggcctg 480
 cccctcagtc gcgatccat cgacgtcaga cgggaagga gctccggtg actttgccga 540
 caggtaccaa aacaaatgtt ctctcaccg gggcatgctt cagatgctgt ttccctgcaa 600
 gacatgcgag agaatgaatc agaatttcaa catttgcttc acgcacggga ccagagactg 660
 ttcagaatgt ttccccggcg tgtcagaatc tcaaccggtc gtcagaaaga ggacgtatcg 720
 gaaactctgt gcgattcacc atctgctggg gcgggctccc gagattgctt gctcggcctg 780
 cgatctggtc aacgtggacc tggatgactg tgtttctgag caataaatga cttaaaccag 840
 gtatggctgc cgatggttat cttccagatt ggtcagagga caacctctct gagggcattc 900
 gcgagtgggtg ggacttgaaa cctggagccc cgaaccacca agccaaccag caaaagcagg 960

acgacggccg ggggtctggtg cttcctggct acaagtacct cggacccttc aacggactcg 1020
 acaaggggga gcccgtcaac gcgggcgacg cagcggccct cgagcacgac aaagcctacg 1080
 accagcagct caaagcgggt gacaatccgt acctgcggta taatcacgcc gacgccgagt 1140
 ttcaggagcg tctgcaagaa gatacgtcct ttggggggcaa cctcggggca gcagtcttcc 1200
 aggccaaagaa gcggttctc gaacctctcg gtctggttga ggaaggcgct aagacggctc 1260
 ctggaaagaa gagaccggtg gagcagtcgc cacaagagcc agactcctcc tcgggcatcg 1320
 gcaagacagg ccagcagccc gctaaaaaga gactcaattt tggtcagact ggcgactcag 1380
 agtcagtccc cgaccacaa cctctcggag aacctccagc agccccctca ggtctgggac 1440
 ctaatacaat ggcttcaggc ggtggcgctc caatggcaga caataacgaa ggcgccgacg 1500
 gagtgggtaa ttcctcggga aattggcatt gcgattccac atggctgggg gacagagtca 1560
 tcaccaccag caccgaacc tgggcccctgc ccacctacaa caaccacctc tacaagcaaa 1620
 tctccaacgg cacctcggga ggaagcacca acgacaacac ctattttggc tacagcacc 1680
 cctgggggta ttttgacttc aacagattcc actgtcactt ttcaccacgt gactggcaac 1740
 gactcatcaa caacaattgg ggattccggc caaaagact caacttcaag ctgttcaaca 1800
 tccagggtcaa ggaagtcacg acgaacgaag gcaccaagac catcgccaat aatctcacca 1860
 gcaccgtgca ggtctttacg gacttgaggt accagttacc gtacgtgcta ggatccgctc 1920
 accagggatg tctgcctccg tccccggcg acgtcttcac ggttcctcag tacggctatt 1980
 taactttaaa caatggaagc caagccctgg gacgttcctc cttctactgt ctggagtatt 2040
 tcccatcgca gatgccgaga accggcaaca actttcagtt cagctacacc ttcgaggacg 2100
 tgcctttcca cagcagctac gcgcacagcc agagcctgga caggctgatg aatccccca 2160
 tcgaccagta cctgtactac ctggtcagaa cgaaacgac tggaaactgga gggacgcaga 2220
 ctctggcatt cagccaagcg ggtcctagct caatggccaa ccaggctaga aattgggtgc 2280
 ccggaccttg ctaccggcag cagcgctct ccacgacaac caaccagaac aacaacagca 2340
 actttgcctg gacgggagct gccaaagtta agctgaacgg ccgagactct ctaatgaatc 2400
 cgggcgtggc aatggcttcc cacaaggatg acgacgaccg cttcttcctc tcgagcgggg 2460
 tctgattttt tggcaagcaa ggagccggga acgatggagt ggattacagc caagtgtga 2520
 ttacagatga ggaagaaatc aaggctacca acccgtggc cacagaagaa tatggagcag 2580
 tggccatcaa caaccaggcc gccaatagc aggcgcagac cggactcgtg cacaaccagg 2640
 gggtgattcc cggcatggtg tggcagaata gagacgtgta cctgcagggt cccatctggg 2700
 ccaaaattcc tcacacggac ggcaactttc accgctctcc cctgatgggc ggctttggac 2760
 tgaagcacco gctcctcaa attctcatca agaacacacc ggttcagcg gaccgcgcgc 2820
 ttacctcaa ccaggccaag ctgaactctt tcacacgca gtacagcacc ggacagggtca 2880

gcgtggaaat cgagtgggag ctgcagaaag aaaacagcaa acgctggaat ccagagattc 2940
aatacacttc caactactac aaatctacaa atgtggactt tgctgtcaac acggaaggag 3000
tttatagcga gctctgcccc attggcaccg gttacctcac ccgcaacctg taattacatg 3060
ttaatcaata aaccgggttaa ttcgttttcag ttgaactttg gtctctgcga agggcggaatt 3120
c 3121

<210> 45
<211> 3122
<212> DNA
<213> new AAV serotype, clone 43.25

<400> 45
gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
gcgtcgacaa gatggtgatc tgggtgggagg agggcaagat gacggccaag gtcgtggagt 120
ccgccaaggc cattctcggc ggcagcaagg tgcgtgtgga ccaaaagtgc aagtcttccg 180
cccagatcga tcccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg 240
acgggaacag caccaccttc gagcaccagc agccgttgca ggaccggatg ttcaaatttg 300
aactcaccgc ccgtctggag catgactttg gcaaggtgac gaagcaggaa gtcaaagggt 360
tcttcgcgtg ggcgcaggat cacgtgaccg aggtggcgca tgagttccac gtgcgagccc 420
aagcgggcct gccctcagt cgcggatcca tcgacgtcag accagaaagg gtggagccaa 480
caagagaccg gcccgcgatg acgcggatat aagcgggaagg agctccggtg gactttgcg 540
acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
agacatgcga gagaatgaat cagaatttca acatttgctt cagcacggg accagagact 660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggc cgtcagaaag aggacgtatc 720
ggaaactctg tgcgattcat catctgctgg ggcgggctcc cgagattgct tgctcggcct 780
gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaacca 840
ggtatggetg ccgatggtta tcttcagat tggctcgagg acaacctctc tgagggcatt 900
cgcgagtggg gggacttgaa acctggagcc ccgaaaccca aagccaacca gcaaaagcag 960
gacgacggcc ggggtctggt gcttctctggc tacaagtacc tcggaccctt caacggactc 1020
gacaaggggg agcccgtaaa cgcggcggac gcagcggccc tcgagcacga caaagcctac 1080
gaccagcagc tcaaagcggg tgacaatccg tacctgcggg ataatacagc cgacgccgag 1140
tttcaggagc gtctgcaaga agatacgtct tttgggggca acctcgggag agcagtcttc 1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260
cctggaaaaga agagaccggg agagcagtcg ccacaagagc cagactcctc ctcgggcatc 1320
ggcaagacag gccagcagcc cgctaaaaag agactcaatt ttggtcagac tggcgactca 1380
gagtcagtcc ccgaccacaa acctctcgga gaacctccag cagcccccctc aggtctggga 1440

cctaatacaa tggcttcagg cggtggcgct ccaatggcag acaataacga aggcgcgcgac 1500
ggagtgggta attcctcggg aaattggcat tgcgattcca catggctggg ggacagagtc 1560
atcaccacca gcaccgaac ctggggccctg cccacctaca acaaccacct ctacaagcaa 1620
atctccaacg gcacctcggg aggaagcacc aacgacaaca cctattttgg ctacagcacc 1680
ccctgggggt attttgactt caacagattc cactgtcact tttcaccacg tgactggcaa 1740
cgactcatca acaacaattg gggattccgg cccaaaagac tcaacttcaa gctgttcaac 1800
atccaggtca aggaagtcac gacgaacgaa ggcaccaaga ccacgcgcaa taatctcacc 1860
agcaccgtgc aggtctttac ggactcggag taccagttac cgtacgtgct aggatccgct 1920
caccagggat gtctgcctcc gttcccgcg gacgtcttca tggttcctca gtacggctat 1980
ttaactttaa acaatggaag ccaagccctg ggacgttcct ccttctactg tctggagtat 2040
ttcccatcgc agatgctgag aaccggcaac aactttcagt tcagctaac cttcaggagc 2100
gtgcctttcc acagcagcta cgcgcacagc cagagcctgg acaggctgat gaatcccctc 2160
atcgaccagt acctgtacta cctggtcaga acgcaaacga ctggaactgg agggacgcag 2220
actctggcat tcagccaagc gggtcctagc tcaatggcca accaggctag aaattgggtg 2280
cccggaacctt gctaccggca gcagcgcgtc tccacgacaa ccaaccagaa caacaacagc 2340
aactttgcct ggacgggagc tgccaagttt aagctgaacg gccgagactc tctaataaat 2400
ccgggcggtg caatggcttc ccacaaggat gacgacgacc gcttcttccc ttcgagcggg 2460
gtcttgattt ttggcaagca aggagccggg aacgatggag tggattacag ccaagtgtctg 2520
attacagatg aggaagaaat caaggctacc aaccccggtg ccacagaaga atatggagca 2580
gtggccatca acaaccaggc cgccaatacg caggcgcaga ccggactcgt gcacaaccag 2640
ggggtgattc ccggcatggt gtggcagaat agagacgtgt acctgcaggg tcccatctgg 2700
gccaaaattc ctcacacgga cggcaacttt caccgcgtct cctgatggg cggcttttga 2760
ctgaagcacc cgctcctca aattctcatc aagaacacac cggttccagc ggaccgccg 2820
cttacottca accaggccaa gctgaactct ttcacacgc agtacagcac cggacaggtc 2880
agcgtggaaa tcgagtggga gctgcagaaa gaaaacagca aacgctggaa tccagagatt 2940
caatacactt ccaactacta caaatctaca aatgtggact ttgctgtcaa cacggagggg 3000
gtttatagcg agcctcgccc cattggcacc cgttaacctc cccgcaacct gtaattacat 3060
gttaatcaat aaacgggta attcgtttca gttgaacttt ggtctctgcg aagggcgaat 3120
tc 3122

<210> 46
<211> 3128
<212> DNA
<213> new AAV serotype, clone 44.1

<400> 46
gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60
gcgctgacaa gatgttgatc tgggtgggagg agggcaagat gacggccaag gtcgtggagt 120
ccgccaaggc cattctcggc ggcagcaaag tgcgcgtgga ccaaaagtgc aagccgtccg 180
cccagatcga cccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg 240
acgggaacag caccaccttc gagcaccagc agccgttgcg ggaccggatg ttcaagtttg 300
aactcaccog ccgtctggag cagactttg gcaaggtgac aaagcaggaa gtcagagagt 360
tcttcgcgtg ggcgcaggat cagctgaccg aggtggcgca cgagttctac gtcagaaagg 420
gtggagccaa caagagaccc gccccgatg acgcggataa aagcgagccc aagcgggcct 480
gcccctcagt cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgccc 540
acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
aaacatgcga gagaatgaat cagaatttca acatttgcct cagcacggg accagagact 660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggt cgtcagaaaa aagacgtatc 720
ggaaactctg tgcgattcat catctgctgg ggcgggcacc cgagattgct tgctcggcct 780
gcgatctggt caacgtggac ctagatgact gtgtttctga gcaataaatg acttaaacca 840
ggtatggctg ccgatggtta tcttcagat tggctcgagg acaacctctc tgagggcatt 900
cgcgagtggg gggacttgaa acctggagcc ccgaaacca aagccaacca gcaaagcag 960
gacgacggcc ggggtctggt gcttcctggc tacaagtacc tcggaccctt caacggactc 1020
gacaaggggg agcccgtaa cgcggcggac gcagcggccc tcgagcacga caaggcctac 1080
gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc cgacgccgag 1140
tttcaggagc gtctgcaaga agatagctct tttgggggca acctcgggag agcagtcttc 1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct 1260
cctggaaaga agagaccggt agagccatca cccagcgtt ctccagactc ctctacgggc 1320
atcggcaaga aaggccagca gcccgcgaaa aagagactca actttgggca gactggcgac 1380
tcagagtcag tgcccgaccc tcaaccaatc ggagaacccc ccgcaggccc ctctggtctg 1440
ggatctggta caatggctgc aggcggtggc gctccaatgg cagacaataa cgaaggcgcc 1500
gacggagtgg gtagttcttc aggaatttgg cattgcgatt ccacatggct gggcgacaga 1560
gtcatcacca ccagcaccog aacctgggac ctccccacct acaacaacca cctctacaag 1620
caaatctcca acgggacttc gggaggaagc accaacgaca acacctactt cggctacagc 1680
acccctcggg ggtattttga ctttaacaga ttccactgcc acttctcacc acgtgactgg 1740
cagcgactca tcaacaacaa ctggggatcc cggcccaaga gactcaactt caagctcttc 1800
aacatccagg tcaaggaggt cagcgagaat gaaggcacca agaccatcgc caataacctt 1860
accagcacga ttcaggctct tacggactcg gaataccagc tcccgtagct cctcggctct 1920

ggcgcaccagg gctgcctgcc tccgttcccg ggggacgtct tcatgattcc tcagtacggg 1980
 tacctgactc tgaacaatgg cagtcaggcc gtgggccgtt cctccttcta ctgcctggag 2040
 tactttcctt ctcaaatgct gagaacgggc aacaactttg agttcagcta ccagtttgag 2100
 gacgtgcctt ttcacagcag ctacgcgcac agccaaagcc tggaccggct gatgaacccc 2160
 ctcatcgacc agtacctgta ctacctgtct cggactcagt ccacgggagg taccgcagga 2220
 actcagcagt tgctattttc tcaggccggg cctaataaca tgtcggctca ggccaaaaac 2280
 tggctacccg ggccctgcta ccggcagcaa cgcgtctcca cgacactgtc gcaaaataac 2340
 aacagcaact gtaaatcccg gtgtcgctat ggcaaccac aaggacgacg aagagcgatt 2400
 ttgcctggac cggtgccacc aagtatcatc tgaatggcag agactctctg ttttccgtcc 2460
 agcggagtct taatgtttgg gaaacagga gctggaaaag acaacgtgga ctatagcagc 2520
 gttatgctaa ccagtgagga agaaattaaa accaccaacc cagtggccac ggaacagtac 2580
 ggcggtggtg ccgataacct gcaacagcaa aacgccgctc ctattgtagg ggccgtcaac 2640
 agtcaaggag ccttacctgg catggtctgg cagaaccggg acgtgtacct gcagggtcct 2700
 atctgggcca agattcctca cacggacgga aactttcatc cctcgccgct gatgggaggc 2760
 tttggactga aacaccgcc tcctcagatc ctgattaaga atacacctgt tcccgcggat 2820
 cctccaacta ccttcagtca agctaagctg gcgtcgttca tcacgcagta cagcaccgga 2880
 caggtcagcg tggaaattga atgggagctg cagaaagaaa acagcaaacy ctggaacca 2940
 gagattcaat acacttccaa ctactacaaa tctacaaatg tggacttcgc tgttaacaca 3000
 gatggcactt attctgagcc tcgcccatt ggcaccggtt acctcaccg taatctgtaa 3060
 ttgctcgtta atcaataaac cggttgattc gtttcagttg aactttggtc tctgcgaagg 3120
 gogaattc 3128

<210> 47
 <211> 3128
 <212> DNA
 <213> new AAV serotype, clone 44.5

<400> 47
 gaattcgccc tttctacggc tgctcaact ggaccaatga gaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgatc tgggtggagg agggcaagat gacggccaag gtcgtggagt 120
 ccgccaaggc cattctcggc ggcagcaaag tgcgcgtgga ccaaaagtgc aagtcgtccg 180
 ccagatcga cccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg 240
 acgggaacag caccaccttc gagcaccagc agccgttgca ggaccggatg ttcaagtttg 300
 aactcaccg ccgtctggag cagactttg gcaaggtgac aaagcaggaa gtcagagagt 360
 tcttcgcgtg ggcgaggat cacgtgaccg aggtggcgca cgagttctac gtcagaaagg 420
 gtggagccaa caagagacc gcccccgatg acgcggataa aagcgagccc aagcgggcct 480

gccccctcagt cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgccg 540
acaggtagcca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca 600
aaacatgcga gagaatgaat cagaatttca acatttgctt cagcacggg accagagact 660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggt tgtcagaaaa aagacgtatc 720
ggaaactctg tgcgattcat catctgctgg ggccggcacc cgagattgct tgctcggcct 780
gcgatctggt caacgtggac ctagatgact gtgtttctga gcaataaatg acttaaacca 840
ggtatggctg ccgatggta tcttcagat tggctcgagg acaacctctc tgagggcatt 900
cgcgagtggg gggacttgaa acctggagcc ccgaaacca aagccaacca gcaaaagcag 960
gacgacggcc ggggtctggt gcttctggc tacaagtacc tcggacctt caacggactc 1020
gacaaggggg agcccgtaaa cggggcggac gcagcggccc tcgagcacga caaggcctac 1080
gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc cgacgccgag 1140
tttcaggagc gtctgcaaga agatacgtct tttgggggca acctcggggc agcagtcttc 1200
caggccaaga agcgggttct cgaacctctc ggtctggtt aggaaggcgc taagacggct 1260
cctggaaaga agagaccggt agagccatca cccagcgtt ctccagactc ctctacgggc 1320
atcggcaaga aaggccagca gcccgcaaaa aagagactca actttgggca gactggcgac 1380
tcagagttag tgcggaccc tcaaccaatc ggagaacccc ccgcaggccc ctctggtctg 1440
ggatctggtg caatggctgc aggcgggtgc gctccaatgg cagacaataa cgaaggcgcc 1500
gacggagtgg gtagttcctc aggaaattgg cattgcgatt ccacatggct gggcgacaga 1560
gtcatcacca ccagcaccgc aacctgggccc ctccccacct acaacaacca cctctacaag 1620
caaatctcca acgggacttc gggaggaagc accaacgaca acacctactt cggctacagc 1680
acccctggg ggtattttga cttaacaga ttccactgcc acttctcacc acgtgactgg 1740
cagcgactca tcaacaacaa ctggggattc cggccaaga gacccaactt caagctcttc 1800
aacatccagg tcaaggaggt cagcagaat gaaggcacca agaccatcgc caataacctt 1860
accagcacga ttcaggtctt tacggactcg gaataccagc tcccgtagt cctcggctct 1920
gcgaccagg gctgctgcc tccgttccc gcgacgtct tcatgattcc tcagtacggg 1980
tacctgactc tgaacaatgg cagtcaggcc gtgggccgtt cctccttcta ctgctggag 2040
tactttcctt ctcaaagtgt gagaacgggc aacaactttg agttcagcta ccagtttgag 2100
gacgtgcctt ttcacagcag ctacgcgcac agccaaagcc tggaccggct gatgaacccc 2160
ctcatcgacc agtacctgta ctacctgtct cggactcagt ccacgggagg taccgcagga 2220
actcagcagt tgctattttc tcaggccggg cctaataaca tgtcggtca ggccaaaaac 2280
tggctacccg ggccctgcta ccggcagcaa cgcgtctcca cgacactgtc gcaaaataac 2340
aacagcaact ttgcctggac cgggtccacc aagtatcatc tgaatggcag agactctctg 2400

gtaaattcccg gtgtcgctat ggcaaccac aaggacgacg aagagcgatt ttttccgtcc 2460
 agcggagtct taatgtttgg gaaacagga gctggaaaag acaacgtgga ctatagcagc 2520
 gttatgctaa ccagtgagga agaaattaaa accaccaacc cagtggccac agaacagtac 2580
 ggcgtggtgg ccgataacct gcaacagcaa aacgcccgtc ctattgtagg ggccgtcaac 2640
 agtcaaggag ccttacctgg catggtctgg cagaaccggg acgtgtacct gcagggtcct 2700
 atctgggcca agattcctca caccgacgga aactttcatc cctcgccgt gatgggagga 2760
 tttggactga aacaccggcc tctcagatc ctgattaaga atacacctgt tcccgggat 2820
 cctccaacta ccttcagtca agctaagctg gcgtcggtca tcacgcagta cagcaccgga 2880
 caggtcagcg tggaaattga atgggagctg cagaaagaaa acagcaaacg ctggaacca 2940
 gagattcaat acacttccaa ctactacaaa tctacaaatg tggactttgc tgttaacaca 3000
 gatggcactt attctgagcc tcgcccatt ggcaccggtt acctcaccgg taatctgtaa 3060
 ttgcttgta atcaataaac cggttgattc gtttcagttg aactttggtc tctgcaagg 3120
 gcgaattc 3128

<210> 48
 <211> 1933
 <212> DNA
 <213> new AAV serotype, clone 223.10

<220>
 <221> misc_feature
 <222> (1302)..(1302)
 <223> can be a, c, g or t

<400> 48
 caaggcctac gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc 60
 cgacgccgag tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcgggcg 120
 agcagtcttc caggccaaaa agcgggttct cgaacctctt ggtctggttg agacgccagc 180
 taagacggca cctggaaaga agcgaccggt agactcgcca gactccacct cgggcatcgg 240
 caagaaaggc cagcagcccg cgaaaaagag actcaacttt gggcagactg gcgactcaga 300
 gtcagtcccc gacctcaac caatcggaga accaccagca ggcccctctg gtctgggac 360
 tggtaaatg gctgcaggcg gtggcgacc aatggctgac aataacgagg gcgcccagcg 420
 agtgggtaat gcctcaggaa attggcattg cgattccaca tggctgggag acagagtcac 480
 caccaccagc accogaacct gggccctgcc cacctacaac aaccacctct acaagcaaat 540
 ctccagtcag tcagcaggga gcaccaacga taacgtctat ttccggctaca gcacccctg 600
 ggggtatttt gacttcaaca gattccattg ccacttctca ccacgtgact ggcagcgact 660
 tatcaacaac aactggggat tcgggcccga gaagctcaac ttcaagctct tcaacatoca 720
 ggtcaaggag gtcacgacga atgacggtgt cacaaccatc gctaataacc ttaccagcac 780

ggttcaggtc ttttcggact cggaatatca actgccgtac gtccctcggct ccgcgcacca	840
gggctgcctg cctccgttcc cggcagacgt gttcatgatt ccgcagtagc gatacctgac	900
tctgaacaat ggcagccaat cggtaggccc ttcctccttc tactgcctgg agtactttcc	960
ttctcagatg ctgagaacgg gcaacaactt caccttttagc tacaccttcg aggacgtgcc	1020
tttccacagc agctacggcg acagccagag tctggaccgg ctgatgaatc cctcatcga	1080
ccagtacctg tactacttgg ccagaacaca gagcaacgca ggaggtagct ctggcaatcg	1140
ggaactgcag ttttatcagg gcggacctac caccatggcc gaacaagcaa agaactggct	1200
gcccggaacct tgcttcggcg aacagagagt atccaagacg ctggatcaaa ataacaacag	1260
caactttgcc tggactggtg ccacaaaata ccatttaaatt gnaagaaatt cattgggttaa	1320
tcccggtgtc gccatggcaa cccacaagga cgacgaggaa cgcttcttcc cttcgagcgg	1380
agttctaatt tttggcaaaa ctggagcagc taataaaact acattagaaa acgtgctcat	1440
gacaaatgaa gaagaaatc gtccctaccaa ccggtagct accgaggaat acgggattgt	1500
aagcagcaac ttgcaggcgg ctagcaccgc agcccagaca caagttgtta acaaccaggg	1560
agccttacct ggcatggtct ggcagaaccg ggacgtgtac ctgcaaggtc ccatttgggc	1620
caagattcct cacacggacg gcaactttca ccgctctcct ctaatgggtg gctttggact	1680
gaaacacccg cctccccaga tcctgatcaa aaacacaccg gtacctgcta atcctccaga	1740
agtgtttact cctgccaaagt ttgcttctct catcacgcag tacagcaccg ggcaagtcag	1800
cgttgagatc gagtgggagc tgcagaaaga gaacagcaag cgctggaacc cagagattca	1860
gtacacctcc aactttgaca aacagactgg agtggacttt gctgttgaca gccaggggtg	1920
ttactctgag cct	1933

<210> 49
 <211> 1933
 <212> DNA
 <213> new AAV serotype, clone 223.2

<400> 49	
caaggcctac gaccagcagc tcaaagcggg tgacaatccg tacctgcggg ataaccacgc	60
cgacgccgag tttcaggagt gtcttcaaga agatacgtct tttgggggca acctcggggc	120
agcagtcttc caggccaaaa agcgggttct cgaacctctt ggtctggttg agacgccagc	180
taagacggca cctggaaaga agcgaccggt agactcgcca gactccacct cgggcacatcg	240
caagaaaggc cagcagcccg cgaaaaagag actcaacttt gggcagactg gcgactcaga	300
gtcagtcccc gacctcaac caatcggaga accaccagca ggccccctctg gtctgggatc	360
tggtacaatg gttgcaggcg gtggcgcacc aatggctgac aataacgagg gcgccgacgg	420
agtgggtaat gctcaggaa attggcattg cgattccaca tggctgggcg acagagtcac	480
caccaccagc acccgaacct gggccctgcc cacctacaac aaccacctct acaagcaaat	540

ctccagtcag tcagcaggga gcaccaacga taacgtctat ttccggctaca gcacccctg	600
ggggatattt gacttcaaca gattccattg ccacttctca ccacgtgact ggcagcgact	660
tatcaacaac aactggggat tccggcccaa gaagctcaac ttcaagctct tcaacatcca	720
ggtcaaggag gtcacgacga atgacgggtg cacaaccatc gctaataacc ttaccagcac	780
ggttcaggtc ttttcggact cggaatatca actgccgtac gtccctcggct ccgcgcacca	840
gggctgcctg cctccgttcc cggcagacgt gttcatgatt ccgcagtagc gatacctgac	900
tctgaacaat ggcagccaat cggtaggcgc ttctctcttc tactgcctgg agtactttcc	960
ttctcagatg ctgagaacgg gcaacaactt caccttttagc tacaccttcg aggacgtgcc	1020
tttccacagc agctacgcgc acagccagag tctggaccgg ctgatgaatc ccctcatcga	1080
ccagtagctg tactacttgg ccagaacaca gagcaacgca ggaggtactg ctggcaatcg	1140
ggaactgcag ttttatcagg gcggacctac caccatggcc gaacaagcaa agaactggct	1200
gcccggacct tgcttccggc aacagagagt atccaagacg ctggatcaaa ataacaacag	1260
caactttgcc tggactggtg ccacaaaata ccatttaaatt ggaagaaatt cattgggttaa	1320
tcccggtgtc gccatggcaa cccacaagga cgacgaggaa cgcttctccc cttcgagcgg	1380
agttctaatt tttggcaaaa ctggagcagc taataaaact acattagaaa acgtgctcat	1440
gacaaatgaa gaagaaatc gtctaccaa cccggtagct accgaggaat acgggattgt	1500
aagcagcaac ttgcaggcgg ctagcaccgc agcccagaca caagttgtta acaaccaggg	1560
agccttacct ggcattggtc ggcagaaccg ggacgtgtac ctgcaaggtc ccatttgggc	1620
caagattcct cacacggacg gcaactttca cccgtctcct ctaatgggtg gctttggact	1680
gaaacacccg cctcccaga tcctgatcaa aaacacgccg gtacctgcta atcctcaga	1740
agtgtttact cctgccaaagt ttgcttctt catcacgcag tacagcaccg ggcaagtcag	1800
cgttgagatc gagtgggagc tgcagaaaga gaacagcaag cgctggaacc cagagattca	1860
gtacacctcc aactttgaca aacagactgg agtggacttt gctgttgaca gccaggggtg	1920
ttactctgag cct	1933

<210> 50
 <211> 1933
 <212> DNA
 <213> new AAV serotype, clone 223.4

<400> 50	
caaggcctac gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc	60
cgacgccgag tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcggggc	120
agcagtcttc caggccaaaa agcgggttct cgaacctctt ggtctggttg agacgccagc	180
taagacggca cctggaaaga agcgaccggt agactcgcca gactccacct cgggcacatcg	240
caagaaaggc cagcagcccc cgaaaaagag actcaacttt gggcagactg gcgactcaga	300

gccagtcccc gaccctcaac caatcggaga accaccagca ggccccctctg gtctgggatac 360
 tgggtacaatg gctgcaggcg gtggcgacac aatggctgac aataacgagg gcgcccagcg 420
 agtgggtaat gcctcaggaa attggcattg cgattccaca cggctgggcg acagagtcat 480
 caccaccagc acccgaacct gggccctgcc cacctacaac aaccacctct acaagcaaat 540
 ctccagtcag tcagcaggga gcaccaacga taacgtctat ttoggctaca gcacccccctg 600
 ggggtatttt gacttcaaca gattccattg ccacttctca ccacgtgact ggcagcgact 660
 tatcaacaac aactggggat tccggcccaa gaagctcaac ttcaagctct tcaacatcca 720
 ggtcaaggag gtcacgacga atgacggcgt cacaaccatc gctaataacc ttaccagcac 780
 ggttcaggtc ttttcggact cggaatatca actgcggtac gtccctgggt ccgcgcacca 840
 gggctgcctg cctccgttcc cggcagacgt gttcatgatt ccgcagtacg gatacctgac 900
 tctgaacaat ggcagccaat cggtaggcgg ttccctcctc tactgcctgg agtactttcc 960
 ttctcagatg ctgagaacgg gcaacaactt cacctttagc tacaccttcg aggacgtgcc 1020
 tttccacagc agctacgcgc acagccagag tctggggcgg ctgatgaatc cctcatcga 1080
 ccagtacctg tactacttgg ccagaacaca gagcaacgca ggaggctactg ctggcaatcg 1140
 ggaactgcag ttttatcagg gcggacctac caccatggcc gaacaagcaa agaactggct 1200
 gcccgacct tgcttccggc aacagagagt atccaagacg ctggatcaaa ataacaacag 1260
 caactttgcc tggactggtg ccacaaaata ccatttaaatt ggaagaaatt cattgggttaa 1320
 tcccggtgtc gccatggcaa ccacaagga cgacgaggaa cgcttcttcc cttcgagcgg 1380
 agttctaatt tttggcaaaa ctggagcagc taataaaact acattagaaa acgtgctcat 1440
 gacaaatgaa gaagaaattc gtcctaccaa cccggtagct accgaggaat acgggattgt 1500
 aagcagcaac ttgcaggcgg ctagcaccgc agcccagaca caagttgtta acaaccaggg 1560
 agcottacct ggcattgtct ggcagaaccg ggacgtgtac ctgcaaggct ccatttgggc 1620
 caagattcct cacacggacg gcaactttca cccgtctcct ctaatgggtg gctttggact 1680
 gaaacacccg cctccccaga tctgatcaa aaacacaccg gtacctgcta atcctccaga 1740
 agtgtttact cctgccaaagt ttgcttcctt catcacgcag tacagcaccg ggcaagtcag 1800
 cgttgagatc gaatgggagc tgcagaaaga gaacagcaag cgctggaacc cagagattca 1860
 gtacacctcc aactttgaca aacagactgg agtggacttt gctgttgaca gccaggggtg 1920
 ttactctgag cct 1933

<210> 51
 <211> 1933
 <212> DNA
 <213> new AAV serotype, clone 223.5

<400> 51
 caaggcctac gaccagcagc tcaagcggg tgacaatccg tacctgcggt ataaccagc 60

cgacgccgag tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcgggcg	120
agcagtcttc caggccaaaa agcgggttct cgaacctctt ggtctggttg agacgccagc	180
taagacggca cctggaaaga agcgaccggt agactcgcca gactccacct cgggcatcgg	240
caagaaaggc cagcagcccg cgaaaaagag actcaacttt gggcagactg gcgactcaga	300
gccagtcccc gacctcaac caatcgga accaccagca ggccccctct gtctggggtc	360
tgggtacaatg gctgcaggcg gtggcgacc aatggctgac aataacgagg gcgcgcagcg	420
agtgggtaat gcctcaggaa attggcattg cgattccaca cggctgggcg acagagtcatt	480
caccaccagc acccgaacct gggccctgcc cacctacaac aaccacctct acaagcaaat	540
ctccagtcag tcagcaggga gcaccaacga taactcttat ttgggtaca gccccctg	600
ggggtatttt gacttcaaca gattccattg ccacttctca ccacgtgact ggcagcgact	660
tatcaacaac aactggggat tccggcccaa gaagctcaac ttcaagctct tcaacatcca	720
ggtcaaggag gtcacgacga atgacggcgt cacaaccatc gctaataacc ttaccagcac	780
ggttcaggtc ttttcggact cggaatatca actgccgtac gtcctcggct ccgcgcacca	840
gggctgcctg cctccgttcc cggcagacgt gttcatgatt ccgcagtacg gatacctgac	900
tctgaacaat ggcagccaat cggtaggccc ttctccttc tactgcctgg agtactttcc	960
ttctcagatg ctgagaacgg gcaacaactt caccttttagc tacaccttcg aggacgtgcc	1020
tttccacagc agctacgcgc acagccagag totgggcccg ctgatgaatc ccctcatcga	1080
ccagtacctg tactacttgg ccagaacaca gagcaacgca ggagggtactg ctggcaatcg	1140
ggaactgcag ttttatcagg gcggacctac caccatggcc gaacaagcaa agaactggct	1200
gcccggacct tgcttccggc aacagagagt atccaagacg ctggatcaaa ataacaacag	1260
caactttgcc tggactggtg ccacaaaata ccatttaaatt ggaagaaatt cattggttaa	1320
tcccgggtgc gccatggcaa ccacaaagga cgacaggaa cgcttcttcc cttcgagcgg	1380
agttctaatt tttggcaaaa ctggagcagc taataaaact acattagaaa acgtgctcat	1440
gacaaatgaa gaagaaattc gtcctaccaa cccggtagct acogaggaat acgggattgt	1500
aagcagcaac ttgcaggcgg ctagcaccgc agcccagaca caagttgtta acaaccaggg	1560
agccttacct ggcattggtct ggcagaaccg ggacgtgtac ctgcaaggtc ccatttgggc	1620
caagattcct cacacggacg gcaactttca ccgtctcct cttaatgggtg gctttggact	1680
gaaacacccg cctccccaga tctgatcaa aaacacaccg gtacctgcta atcctccaga	1740
agtgtttact cctgccaaat ttgcttcctt catcacgcag tacagcaccg ggcaagtcag	1800
cgttgagatc gaatgggagc tgcagaaaga gaacagcaag cgctggaacc cagagattca	1860
gtacacctcc aactttgaca aacagactgg agtggacttt gctgttgaca gccaggggtg	1920
ttactctgag cct	1933

<210> 52
 <211> 1933
 <212> DNA
 <213> new AAV serotype, clone 223.6

<400> 52
 caaggcctac gaccagcagc tcaaagoggg tgacaatccg tacctgcggt ataaccacgc 60
 cgacgccgag tttcaggagc gtcttcaaga agatacgtct ttggggggca acctcgggcg 120
 agcagtcttc caggccaaaa agcgggttct cgaacctctt ggtctggttg agacgccagc 180
 taagacggca cctgaaaga agcagccggt agactcgcca gactccacct cgggcacgcg 240
 caagaaaggc cagcagcccg cgaaaaagag actcaacttt gggcagactg gcgactcaga 300
 gtcagtcccc gacctcaac caatcgaga accaccagca ggcccctctg gtctgggacg 360
 tggtagaatg gctgcaggcg gtggcgacac aatggctgac aatagcgagg gcgccgacgg 420
 agtgggtaat gcctcaggaa attggcattg cgattccaca tggctgggag acagagtcac 480
 caccaccagc acccgaaact gggccctgcc cacctacaac aaccacctct acaagcaaat 540
 ctocagtcag tcagcaggga gcaccaacga taactgttat ttgggtctaca gcacccctcg 600
 ggggtatatt gacttcaaca gattccattg ccactttctc ccacgtgact ggcagcgact 660
 tatcaacaac aactgggat tccggcccaa gaagctcaac ttcaagctct tcaacatcca 720
 ggtcaaggag gtcacgacga atgacggtgt cacaaccatc gctaataacc ttaccagcac 780
 ggttcaggtc ttttcggact cggaatatca actgccgtac gtcctcggct ccgcgcacca 840
 gggctgcctg cctccgttcc cggcagacgt gttcatgatt ccgcagtagc gatacctgac 900
 tctgaacaat ggcagccaat cggtaggcgg ttctctcttc tactgccttg agtactttcc 960
 ttctcagatg ctgagaacgg gcaacaactt caccttttagc tacaccttcg aggacgtgcc 1020
 tttccacagc agctacgcgc acagccagag tctggaccgg ctgatgaatc cctcatcga 1080
 ccagtacctg tactacttgg ccagaacaca gagcaacgca ggaggtactg ctggcaatcg 1140
 ggaactgcag ttttatcagg gcggacctac caccatggcc gaacaagcaa agaactggct 1200
 gcccgacact tgcttcgggc aacagagagt atccaagacg ctggatcaaa ataacaacag 1260
 caactttgcc tggactggtg ccacaaaata ccatttaaatt ggaagaaatt cattggttaa 1320
 tcccggtgtc gccatggcaa ccacaagga cgacgaggaa cgcttcttcc cttcgagcgg 1380
 agttctaatt tttggcaaaa ctggagcagc taataaaaact acattagaaa acgtgctcat 1440
 gacaaatgaa gaagaaattc gtcctaccaa cccggtagct accgaggaat acgggattgt 1500
 aagcagcaac ttgcaggcgg ctacgaccgc agcccagaca caagttgtta acaaccaggg 1560
 agccttacct ggcattggtc ggcagaaccg ggacgtgtac ctgcaaggtc ccatttgggc 1620
 caagattcct cacacggagc gcaactttca cccgtctcct ctaatgggtg gctttggact 1680
 gaaacacccg cctcccaga tctgatcaa aaacacaccg gtacctgcta atctccaga 1740

agtgtttact cctgccaagc ttgcttcctt catcacgcag tacagcacgc ggcaagtcag 1800
 cgttgagatc gagtggggagc tgcagaaaga gaacagcaag cgctggaacc cagagattca 1860
 gtacacctcc aactttgaca aacagactgg agtggacttt gctgttgaca gccaggggtgt 1920
 ttactctgag cct 1933

<210> 53
 <211> 1933
 <212> DNA
 <213> new AAV serotype, clone 223.7

<400> 53
 caaggcctac gaccagcagc tcaaagcggg tgacaatccg tacctgcggt ataaccacgc 60
 cgacgccgag ttccaggagc gtcttcaaga agatacgtct tttgggggca acctcggggc 120
 agcagtcttc caggccaaaa agcgggttct cgaacctctt ggtctggttg agacgccagc 180
 taagacggca cctggaaaga agcgaccggt agactcgcca gactccacct cgggcatcgg 240
 caagaaaggc cagcagcccg cgaagaaagag actcaacttt gggcagactg ggcactcaga 300
 gtcagtcccc gacctcaac caatcgga accaccagca ggccccctct gtctgggac 360
 tgggtacaatg gctgcaggcg gtggcgacc aatggctgac aataacgagg gcgccgacgg 420
 agtgggtaat gcctcaggaa attggcattg cgattccaca tggctggcg acagagtcac 480
 caccaccagc acccgaaact gggccctgcc cactacaac aaccacctct acaagcaaat 540
 ctccagtcag tcagcaggga gcaccaacga taacgtctat ttccggctaca gcacccctg 600
 ggggtatatt gacttcaaca gattccattg ccactcttca ccacgtgact ggcagcgact 660
 tatcaacaac aactggggat tccggcccaa gaagctcaac ttcaagctct tcaacatcca 720
 ggtcaaggag gtcacgacga atgacggcgt cacaaccatc gctaataacc ttaccagcac 780
 ggttcaggtc ttttcggacc cggaatatca actgccgtac gtccctggct ccgcgcacca 840
 gggctgcctg cctccgttcc cggcagacgt gttcatgatt ccgcagtagc gatacctgac 900
 tctgaacaat ggcagccaat cggtaggcg ttcctccttc tactgcctgg agtactttcc 960
 ttctcagatg ctgagaacgg gcaacaactt cacttttagc tacaccttcg aggacgtgcc 1020
 tttccacagc agctacgcgc acagccagag tctggaccgg ctgatgaac ccctcatcga 1080
 ccagtacctg tactacttgg ccagaacaca gagcaacgca ggaggtactg ctggcaatcg 1140
 ggaactgcag ttttatcagg gcggacctac caccatggcc gaacaagcaa agaactggct 1200
 gcccggaact tgcttcgggc aacagagagt atccaagacg ctggatcaaa ataacaacag 1260
 caactttgcc tggactgggt ccacaaaata ccatttaaat ggaagaaatt cattgggtta 1320
 tcccgggtgc gccatggcaa cccacaagga cgacgaggaa cgcttcttcc ctccgagcgg 1380
 agttctaat tttggcaaaa ctggagcagc taataaaaact acattagaaa acgtgctcat 1440
 gacaaatgaa gaagaaattc gtcctaccaa cccggtagct accgaggaat acgggattgt 1500

aagcagcaac ttgcaggcgg ctacgaccgc agcccagaca caagttgtta acaaccaggg 1560
agccttacct ggcattgtct ggcagaaccg ggacgtgtac ctgcaaggtc ccattttggc 1620
caagattcct cacacggacg gcaactttca cccgtctcct ctaatgggtg gcttttgact 1680
gaaacacccg cctccccaga tctgatcaa aaacacaccg gtacctgcta atcctccaga 1740
agtgtttact cctgccaaga ttgcttctt catcacgcag tacagcaccg ggcaagtcag 1800
cgttgagatc gagtgggagc tgcagaaaga gaacagcaag cgctggaacc cagagattca 1860
gtacacctcc aactttgaca aacagactgg agtggacttt gctgttgaca gccaggggtg 1920
ttactctgag cct 1933

<210> 54
<211> 3123
<212> DNA
<213> new AAV serotype, clone A3.4

<400> 54
gaattcgccc tttctacggc tgcgtcaact ggaccaatga aaactttccc ttcaacgatt 60
gcgtcgacaa gatggtgatc tgggtgggagg agggaaagat gaccgccaag gtcgtggaat 120
ctgccaaagc cattctgggt ggaagcaagg ttctgttga ccagaaatgc aagtcttcgg 180
cccagatcga cccgaactcg gtgattgtca cctctaacac caacatgtgc gccgtgattg 240
acggaaactc gaccaccttc gagcaccagc agccgttgca agaccggatg ttcaaatttg 300
aacttaccgc ccgtttggat catgactttg ggaaggtcac caagcaggaa gtcaaagact 360
ttttccggtg ggctcaagat cacgtgactg aggtggagca tgagttctac gtcaaaaagg 420
gtggagccaa gaaaaggccc gcccccgatg atgtatatat aaatgagccc aagcgggcgc 480
gcgagtcagt tgcgcagcca tcgacgtcag acgcggaagc ttcgataaac tacgcgggca 540
ggtacaaaaa caaatgttct cgtcacgtgg gcatgaatct gatgctgttt ccctgtcgac 600
aatgcgaaag aatgaatcag aattcaaata tctgcttcac acacgggcaa aaagactgtt 660
tggaatgctt tcccgtgtca gaatctcaac ccgtttctgt cgtcagaaaa acgtatcaga 720
aactttgtta cattcatcat atcatgggaa aagaaccaga cgcctgcact gcctgcgacc 780
tggtaaatgt ggacttggat gactgtatct ctgagcaata aatgacttaa atcaggtatg 840
gctgctgacg gttatcttcc agattggctc gaggacactc tctctgaagg aatcagacag 900
tgggtggaagc tcaaacctgg cccaccaccg ccgaaacctt accaacaaca ccgggacgac 960
agtaggggtc ttgtgcttcc tgggtacaag tacctcggac ccttcaacgg actcgacaaa 1020
ggagagccgg tcaacgaggc agacgcgcgc gccctcgagc acgacaaagc ctacgaccac 1080
cagctcaagc aaggggacaa cccgtacctc aaatacaacc acgcggacgc tgaatttcag 1140
gagcgtcttc aagaagatac gtctttcggg ggcaacctcg ggcgagcagt cttccaggcc 1200
aaaaagaggy tactcgagcc tcttggctctg gttgaggaag ctgttaagac ggctcctgga 1260

aaaaagagac ctatagagca gtctcctgca gaaccggact cttcctcggg catcggcgaa	1320
tcaggccagc agcccgctaa gaaaagactc aatttttggtc agactggcga cacagagtca	1380
gtcccgagacc ctcaaccaat cggagaaccc cccgcagccc cctctggtgt gggatcta	1440
acaatggctt caggcgggtgg ggcaccaatg gcagacgata acgaaggcgc cgacggagt	1500
ggtaattcct cgggaaattg gcattgcgat tccacatgga tgggcgacag agttatcacc	1560
accagcacia gaacctgggc cctccccacc tacaataatc acctctacaa gcaaatctcc	1620
agcgaatcgg gagccaccaa cgacaaccac tacttcggct acagcaccac ctgggggtat	1680
tttgacttta acagattcca ctgtcacttc tcaccacgtg actggcagcg actcatcaac	1740
aacaactggg gatttagacc caagaaactc aatttcgaag tcttcaacat ccaagtcaag	1800
gaggtcacgc agaattgatg aaccacgacc atcgccaata accttaccag cacggtgcag	1860
gtcttcacag actctgagta ccagctgccc taogtctctg gttcgggtca ccagggtgc	1920
cttcgcgcgt tcccagcaga cgtcttcatg attcctcagt acggctactt gactctgaac	1980
aatggcagcc aagcggtagg acgttcttca ttctactgtc tagagtattt tccctctcag	2040
atgctgagga cgggaaacaa cttcaccttc agctacactt ttgaagacgt gcctttccac	2100
agcagctacg cgcacagcca gagtctggat cggctgatga atcctctcat tgaccagtac	2160
ctgtattacc tgagcaaac tcagggtaca agtggaacaa cgcagcaatc gagactgcag	2220
ttcagccaag ctgggcctag ctccatggct cagcaggcca aaaactggct accgggaccc	2280
agctaccgac agcagcgaat gtctaagacg gctaatagaca acaacaacag tgaatttgct	2340
tggactgcag ccaccaaata ttacctgaat ggaagaaatt ctctggtcaa tcccgggccc	2400
ccaatggcca gtcacaagga cgatgaggaa aagtatttcc ccatgcacgg aaatctcatc	2460
tttgaaaaac aaggcacagg aactaccaat gtggacattg aatcagtgct tattacagac	2520
gaagaagaaa tcagaacaac taatcctgtg gctacagaac aatacggaca ggttgccacc	2580
aaccatcaga gtcaggacac cacagcttcc tatggaagtg tggacagcca gggaatctta	2640
cctggaatgg tgtggcagga ccgcgatgtc tatcttcaag gtcccatttg ggccaaaact	2700
cctcacacgg acggacactt tcactcttct ccgctcatgg gaggcttttg actgaaacac	2760
cctcctcccc agatcctgat caaaaacaca cctgtgccag cgaatccgc gaccactttc	2820
actcctggaa agtttgcttc gttcattacc cagtattcca ccggacaggt cagcgtggaa	2880
atagagtggg agctgcagaa agaaaacagc aaacgctgga acccagaaat tcagtacacc	2940
tccaactaca acaagtgggt gaatgtggag tttaccgtgg acgcaaacgg tgtttattct	3000
gaaccccgcc ctattggcac tcgttacctt acccggaact tgtaatttcc tgtaaatgaa	3060
taaaccgatt tatgcgtttc agttgaactt tggctctctg gaaggcgaa ttcggggccg	3120
cta	3123

<210> 55
 <211> 3113
 <212> DNA
 <213> new AAV serotype, clone A3.5

<400> 55
 gaattcgccc tttctacggc tgcgtcaact ggaccaatga aaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgatc tgggtggagg agggaaagat gaccgccaag gtcgtggaat 120
 ctgccaaagc cattctgggt ggaagcaagg ttcgtgtgga ccagaaatgc aagtcttcgg 180
 cccagatcga cccgactccg gtgattgtca cctctaacac caacatgtgc gccgtgattg 240
 acggaaactc gaccaccttc gagcaccagc agccgttgca agaccggatg ttcaaatattg 300
 aacttaccgg ccgtttggat catgactttg ggaaggtcac caagcaggaa gtcaaaagact 360
 ttttcgggtg ggctcaagat cacgtgactg aggtggagca tgagttctac gtcaaaaagg 420
 gtggagccaa gaaaaggccc gccccgatg atgtatatat aaatgagccc aagcggggcg 480
 gcgagtcagt tgcgcagcca tcgacgtcag acgcggaagc ttcgataaac tacgcggaca 540
 ggtacaaaaa caaatgttct cgtcacgtgg gcataaatct gatgctgttt ccoctgtcgac 600
 aatgcgaaag aatgaatcag aattcaaata tctgcttcac acacgggcaa aaagactggt 660
 tggaatgctt tcccggtgca gaatctcaac ccgttcctgt cgtcagaaaa acgtatcaga 720
 aactttgtta cattcatcat atcatgggaa aagtaccaga cgcctgcact gcctgcgacc 780
 tggtaaagt gtgacttggt gactgtattt ctgagcaata aatgacttaa atcaggtatg 840
 gctgctgacg gttatcttcc agattggctc gaggacactc tctctgaagg aatcagacag 900
 tgggtggaagc tcaaacctgg cccaccaccg ccgaaacct accaacaaca ccgggacgac 960
 agtaggggtc ttgtgcttcc tgggtacaag tacctcggac ccttcaacgg actcgacaaa 1020
 ggagagccgg tcaacgaggc agacgccgag gccctcgagc acgacaaagc ctacgaccac 1080
 cagctcaagc aaggggacaa cccgtacctc aaatacaacc acgcggagcg tgaatttcag 1140
 gagcgtcttc aagaagatac gtctttcggg ggcaacctcg ggcgagcagt cttccaggcc 1200
 aaaaagaggg tactcgagcc tcttggtctg gttgaggaag ctgttaagac ggctcctgga 1260
 aaaaagagac ctatagagca gtctcctgca gaacgggact cttcctcggg catcggcaaa 1320
 tcaggccagc agcccgctaa gaaaagactc aattttggtc agactggcga cacagagtca 1380
 gtcccagacc ctcaaccaat cggagaacct ccgcgagccc cctctggtgt gggatctaata 1440
 acaatggctt caggcgggtg ggcaccaatg gcagacaata acgaaggcgc cgacggagtg 1500
 ggtaattcct cgggaaattg gcattgcgat tccacatgga tgggagacag agttatcacc 1560
 accagcacia gaacctgggc cctccccacc tacaataatc acctctacaa gcaaactctcc 1620
 agcgaatcgg gagccaccaa cgacaaccac tacttcggct acagcaccoc ctgggggtat 1680
 tttgacttta acagattcca ctgtcacttc tcaccacgtg actggcagcg actcatcaat 1740

aacaactggg gatttagacc caagaaactc aatttcaagc tcttcaacat ccaagtcaag 1800
gaggtcacgc agaattgatgg aaccacgacc atcgccaata accttaccag cacgggtgcag 1860
gtcttcacag actctgagta ccagctgccc tacgtcctcg gttcgggtca ccagggctgc 1920
cttcgcgctg tcccagcaga cgtcttcatg attcctcagt acggctactt gactctgaac 1980
aatggcagcc aagcggtagg acgttcttca ttctactgtc tagagtattt tocctctcag 2040
atgctgagga cgggaaacaa cttcaccttc agctacactt ttgaagacgt gcctttccac 2100
agcagctacg cgcacagcca gagtctggat cggctgatga atcctctcat tgaccagtac 2160
ctgtattacc tgagcaaac tcaggggtaca agtggaaaca cgcagcaatc gagactgcag 2220
ttcaaccaag ctgggcctag ctccatggct cagcaggcca aaaactggct accgggaccc 2280
agctaccgac agcagcgaat gtctaagacg gctaatagaca acaacaacag tgaatttgct 2340
tggactgcag ccaccaata ttaccgaat ggaagaaatt ctctggtcaa tcccgggccc 2400
ccaatggcca gtcacaagga cgatgaggaa aagtatttcc ccatgcacgg aaatctcatc 2460
tttgaaaaac aaggcacagg aactaccaat gtggacattg aatcagtgtc tattacagac 2520
gaagaagaaa tcagaacgac taatcctgtg gctacagaac aatacggaca ggttgccacc 2580
aaccgtcaga gtcagaacac cacagcttcc tatggaagtg tggacagcca gggaatctta 2640
cctggaatgg tgtggcagga ccgcgatgtc tatcttcaag gtcccatattg ggccaaaact 2700
cctcacacgg acggacactt tcctccttct ccgctcatgg gaggctttgg actgaaacac 2760
cctcctcccc agatcctgat caaaaacaca cctgtgccag cgaatccgc gaccactttc 2820
actcctggaa agtttgcttc gttcattacc cagtattcca ccggacaggt cagcgtggaa 2880
atagagtggg agctgcagaa agaaaacagc aaacgctgga acccgaaat tcagtacacc 2940
tccaactaca acaagtcggt gaatgtggag ttaccgtgg acgcaaacgg tgtttattct 3000
gaaccccgcc ctattggcac tcgttacctt acccggaact tgtaatttcc tgtaaatgaa 3060
taaaccgatt tatgcgtttc agttgaactt tggctctcgc gaaggcgaa ttc 3113

<210> 56
<211> 3122
<212> DNA
<213> new AAV serotype, clone A3.7

<400> 56
agcggcgcg aattcgccct ttctacggct gcgtcaactg gaccaatgaa aactttccct 60
tcaacgattg cgtcgacaag atggtgatct ggtgggagga gggaaagatg accgccaagg 120
tcgtggaatc tgccaaagcc attctgggtg gaagcaaggt tcgtgtggac cagaaatgca 180
ggtcttcggc ccagatcgac ccgactcggg tgattgtcac ctctaacacc aacatgtgcg 240
ccgtgattga cggaaactcg accaccttog agcaccagca gccgttgcaa gaccggatgt 300
tcaaatttga acttaccgc cgtttggatc atgacttttg gaaggtcacc aagcaggaag 360

tcaaagactt tttccggtgg gctcaagatc acgtgactga ggtggagcat gagttctacg	420
tcaaaaaggg tggagccaag aaaaggcccg cccccgatga tgtatatata aatgagccca	480
agcgggcgcg cgagtcagtt gcgcagccat cgacgtcaga cgcggaagct tcgataaaact	540
acgcggaacag gtacccaaaac aaatgtttctc gtcacgtggg catgaatctg atgctgtttc	600
cctgtcgaca atgcgaaaga atgaatcaga attcaaatat ctgcttcaca cacgggcaaa	660
aagactgttt ggaatgcttt cccgtgtcag aatctcaacc cgtttctgtc gtcagaaaaa	720
cgtatcagaa actttgttac attcatcata tcatgggaaa agtaccagac gcctgcactg	780
cctgcgacct ggtaaatgtg gacttggatg actgtatttc tgagcaataa atgacttaaa	840
tcaggatagg ctgctgacgg ttatcttcca gattggctcg aggacactct ctctgaagga	900
atcagacagt ggtggaagct caaacctggc ccaccaccgc cgaaacctaa ccaacaacac	960
cgggacgaca gtaggggtct tgtgcttcct gggtacaagt acctcggacc cttcaacgga	1020
ctcgacaaaag gagagccggt caacgaggca gacgccgcgg ccctcgagca cgacaaagcc	1080
taagaccacc agctcaagca aggggacaac ccgtacctca aatacaacca cgcggacgct	1140
gaatttcagg agcgtcttca agaagatacg tctttcgggg gcaacctcgg gcgagcagtc	1200
ttccaggcca aaaagagggt actcgagcct cttggtctgg ttgaggaagc tgttaagacg	1260
gctcctggaa aaaagagacc tatagagcag tctcctgcag aaccggactc ttcctcgggc	1320
atcggcaaat caggccagca gcccgctaag aaaagactca attttggta gactggcgac	1380
acagagtcag tccagaccc tcaaccaatc ggagaacccc ccgcagcccc ctctggtgtg	1440
ggatctaata caatggcttc aggcggtggg gcaccaatgg cagacaataa cgaaggcgcc	1500
gacggagtgg gtaattcctc gggaaattgg cattgcgatt ccacatggat gggcgacaga	1560
gttatcacca ccagcacaag aacctgggac ctccccacct acaataatcg cctctacaag	1620
caaatctcca gcgaatcggg agccaccaac gacaaccact acttcggcta cagcaccccc	1680
tgggggtatt ttgactttaa cagattccac tgtcacttct caccacgtga ctggcagcga	1740
ctcatcaaca acaactgggg atttagacct aagaaactca atttcaagct cttcaacatc	1800
caagtcaagg aggtcacgca gaatgatgga accacgacca tcgccaataa ccttaccagc	1860
acggtgcagg tcttcacaga ctctgagtac cagctgcctt acgtcctcgg ttcggctcac	1920
cagggctgcc ttccgccgtt cccagcagac gtcttcatga ttcctcagta cggctacttg	1980
actctgaaca atggcagcca agcggtagga cgttcttcat tctactgtct agagtatttt	2040
ccctctcaga tgctgaggac gggaaacaac ttcaccttca gctacacttt tgaagacgtg	2100
cctttccaca gcagctacgc gcacagccag agtctggatc ggctgatgaa tcctctcatt	2160
gaccagtacc tgtattacct gagcaaaact cagggtacaa gtggaacaac gcagcaatcg	2220
agactgcagt tcagccaagc tgggcctagc tccatggctc agcaggccaa aaactggcta	2280

ccgggaccca gctaccgaca gcagcgaatg tctaagacgg ctaatgacaa caacaacagt 2340
 gaatttgctt ggactgcagc caccaaatac tacctgaatg gaagaaattc tctgggtcaat 2400
 cccgggcccc caatggccag tcacaaggac gatgaggaaa agtatttccc catgcacgga 2460
 aatctcatct ttggaaaaca aggcacagga actaccaatg tggacattga atcagtgttt 2520
 attacagacg aagaagaaat cagaacaact aatcctgtgg ctacagaaca atacggacag 2580
 gttgccacca accatcagag tcagaacacc acagcttcct atggaagtgt ggacagccag 2640
 ggaatcttac ctggaatggt gtggcaggac cgcgatgtct atcttcaagg tcccatttgg 2700
 gccaaaactc ctcacacgga cggacacttt catccttctc cgctcatggg aggcttttga 2760
 ctgaaacacc ctccctccca gatcctgac aaaaacacac ctgtgccagc gaatcccgcg 2820
 accactttca ctcttgaaa gtttgcttcg ttcattaccc agtattccac cggacaggtc 2880
 agcgtggaaa tagagtggga gctgcagaaa gaaaacagca aacgctggaa ccagaaatt 2940
 cagtacacct ccaactacaa caagtcggtg aatgtggagt ttaccgtgga cgcaaacggt 3000
 gtttattctg aaccccgccc tattggcact cgttacctta cccggaactt gtaatttcct 3060
 gttaatgaat aaaccgattt atgcgtttca gttgaacttt ggtctctgcg aaggcggaat 3120
 tc 3122

<210> 57
 <211> 3123
 <212> DNA
 <213> new AAV serotype, clone A3.3

<400> 57
 gaattcgccc ttctacggc tgcgtcaact ggaccaatga aaactttccc ttcaacgatt 60
 gcgtcgacaa gatggtgac tgggtggagg agggaaagat gaccgccaag gtcgtggaat 120
 ctgccaaagc cattctgggt ggaggcaagg ttctgttgga ccagaaatgc aagtcttcgg 180
 ccagatcga cccgactccg gtgattgtca cctctaacac caacatgtgc gccgtgattg 240
 acggaaaactc gaccaccttc gagcaccagc agccgttgca agaccggatg ttcaaatttg 300
 aacttaccgg ccgtttggat catgactttg ggaaggtcac caagcaggaa gtcaaagact 360
 ttttcgggtg ggctcaagat cacgtgactg aggtggagca tgagttctac gtcaaaaagg 420
 gtggagccaa gaaaaggccc gcccccgatg atgtatatat aaatgagccc aagcgggccc 480
 gcgagtcagt tgcgcagcca tcgacgtcag acgcggaagc ttcgataaac tacgcggaca 540
 ggtaccaaaa caaatgttct cgtcacgtgg gcattgaatc gatgctgttt ccctgtcgac 600
 aatgcgaaag aatgaatcag aattcaaata tctgcttcac acacgggcaa aaagactgtt 660
 tggaatgctt tccgtgtca gaattcaca ccgtttctgt cgtcagaaaa acgtatcaga 720
 aactttgtta cattcatcat atcatgggaa aagtaccaga cgctgcact gcctgcgacc 780
 tggtaaatgt ggacttgat gactgtattt ctgagcaata aatgacttaa atcaggtatg 840

gctgctgacg gttatcttcc agattggctc gaggacactc tctctgaagg aatcagacag	900
tggtggaagc tcaaacctgg cccaccacgc ccgaacctc accaacaaca cggggacgac	960
agtaggggtc ttgtgcttcc tgggtacaag tacctcggac ccttcaacgg actcgacaaa	1020
ggagagccgg tcaacgaggc agacgcgcgc gccctcgagc acgacaaagc ctacgaccac	1080
cagctcaagc aaggggacaa cccgtacctc aaatacaacc acgcgagcgc tgaatttcag	1140
gagcgtcttc aagaagatac gtctttcggg ggcaacctcg ggcgagcagt cttccaggcc	1200
aaaaagaggg tactcgagcc tcttggtctg gttgaggaag ctgttaagac ggctcctgga	1260
aaaaagagac ctatagagca gtctcctgca gaaccggact cttcctcggg catcggcaaa	1320
tcagccagc agcccgtac gaaaagactc aattttggtc agactggcga cacagagtca	1380
gtcccaggcc ctcaaccaat cggagaacct cccgcagccc cctctggtgt gggatctaata	1440
acaatggctt caggcggtgg ggcaccaatg gcagacaata acgaaggcgc cgacggagtg	1500
ggtaattcct cgggaaattg gcattgcgat tccacatgga tgggcgacag agttatcacc	1560
accagcacia gaacctgggc cctccccacc tacaataatc acctctacaa gcaaatctcc	1620
agcgaatcgg gagccaccaa cgacaaccac tacttcggct acagcaccac ctgggggtat	1680
tttgacttta acagattcca ctgtcacttc tcaccacgtg actggcagcg actcatcaac	1740
aacaactggg gatttagacc caagaaactc aatttcaagc tcttcaacat ccaagtcaag	1800
gaggtcacgc agaattgatg aaccacgacc atcgccaata accttaccag cgcgggtgcag	1860
gtcttcacag actctgagta ccagctgccc tacgtcctcg gttcggctca ccagggctgc	1920
cttccgccgt tcccagcaga cgtcttcatg attcctcagt acggctactt gactctgaac	1980
aatggcagcc aagcggtagg acgttcttca ttctactgtc tagagtattt tccctctcag	2040
atgctgagga cgggaaacaa cttcaccttc agctacactt ttgaagacgt gcctttccac	2100
agcagctacg cgcacagcca gagtctggat cggctgatga atcctctcat tgaccagtac	2160
ctgtattacc tgagcaaaac tcagggtaca agtggaaaca cgcagcaatc gagactgcag	2220
ttcagccaag ctgggcctag ctccatggct cagcaggcca aaaactggct accgggaccc	2280
agctaccgac agcagcgaat gtctaagacg gctaattgaca acaacaacag tgaatttgct	2340
tggtactgcag ccaccaaata ttacctgaat ggaagaaatt ctctgttcaa tcccgggccc	2400
ccagtggcca gtcacaagga cgatgaggaa aagtatttcc ccatgcacgg aaatctcatc	2460
tttgaaaaac aaggcacagc aactaccaat gtggacattg aatcagtgtc tattacagac	2520
gaagaagaaa tcagaacaac taatcctgtg gctacagAAC aatacggaca ggttgccacc	2580
aaccatcaga gtcagaacac cacagcttcc tatggaagtg tggacagcca gggaaatctta	2640
cctggaatgg tgtggcagga ccgcgatgtc tatcttcaag gtccatttg ggccaaaact	2700
cctcacacgg acggacactt tcctccttct ccgtcatgg gaggttttg actgaaacac	2760

cctcctcccc agatcctgat caaaaacaca cctgtgccag cgaatccgc gaccactttc	2820
actcctggaa agtttgcttc gttcattacc cagtattcca cctgacaggt cagcgtggaa	2880
atagagtggg agctgcagaa agaaaacagc aaacgctgga acccagaaat tcagtacacc	2940
tccaaactaca acaagtcggt gaatgtggag tttaccgtgg acgcaaacgg tgtttattct	3000
gaaccccgcc ctattggcac tcgttacctt acccggaact tgtaatttcc tgттаатgaa	3060
taagccgatt tatgcgtttc agttgaactt tggctctctgc gaagggcgaa ttcgttttaa	3120
cct	3123

<210> 58
 <211> 2969
 <212> DNA
 <213> new AAV serotype, clone 42.12

<400> 58	
gaattcgccc tttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt	60
gcgtcgacaa gatggtgatc tgggtggagg agggcaagat gacggccaag gtcgtggagt	120
ccgccaaaggc cattctcggc ggcagcaagg tgcgctgga ccaaaagtgc aagtcgtccg	180
cccagatcga cccaccccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg	240
acgggaacag caccaccttc gagcaccagc agccgttaca agaccggatg ttcaaatttg	300
aactcaccog ccgtctggag cagcactttg gcaaggtgac aaagcaggaa gtcaaagagt	360
tcttccgctg ggcgcaggat cagctgaccg aggtggcgca tgagtcttac gtcagaaagg	420
gtggagccaa caagagaccc gccccgatg acgcgataa aagcgagccc aagcgggctt	480
gccccctcagt cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgccg	540
acaggtacca aaacaaatgt tctcgtcacg cgggcatgct tcagatgctg tttccctgca	600
agacatgcga gagaatgaat cagaatttca acatttgctt cagcacggg accagagact	660
gttcagaatg tttccccggc gtgtcagaat ctcaaccggt cgtcagaaag aggacgtatc	720
ggaaactctg tgccattcat catctgctgg ggcgggctcc cgagattgct tgctcggcct	780
gcgatctggt caacgtggac ctggatgact gtgtttctga gcaataaatg acttaaacca	840
ggtatggctg ccgatggtta ttttccagat tggctcgagg acaacctctc tgagggcatc	900
cgcgagtggg gggacttgaa acctggagcc ccgaaacca aagccaacca gcaaaagcag	960
gacgacggcc ggggtctggt gcttcttggc tacaagtacc tcggaccctt caacggactc	1020
gacaagggag agccggtcaa cgaggcagac gcccgggccc tcgagcacga caagcctac	1080
gacaagcagc tcgagcaggg ggacaacccg tacctcaagt acaaccagc cgacgccgag	1140
tttcaggagc gtcttcaaga agatacgtct tttgggggca acctcgggcy agcagtcttc	1200
caggccaaga agcgggttct cgaacctctc ggtctggttg aggaaggcgc taagacggct	1260
cctggaaaga agagaccggt agagccatca cccagcgtt ctccagactc ctctacgggc	1320

atcggcaaga caggccagca gcccgcgaaa aagagactca actttgggca gactggcgac 1380
 tcagagtcag tgcccagccc tcaaccaatc ggagaacccc ccgcaggccc ctctggtctg 1440
 ggatctggta caatggctgc aggcgggtggc gctccaatgg cagacaataa cgaaggcgcc 1500
 gacggagtgg gtagttcctc aggaaattgg cattgcgatt ccacatggct gggcgacaga 1560
 gtcâcaccâ ccagcaacccg aacctggggc cccccacct acaacaacca cctctacaag 1620
 caaatctcca acgggacatc gggaggaagc accaacgaca acacctactt cggctacagc 1680
 accccctggg ggtattttga ctttaacaga ttccactgcc acttctcacc acgtgactgg 1740
 cagcgactca tcaacaacaa ctggggatc cggcccaaga gactcaactt caagctcttc 1800
 aacatccagg tcaaggaggt cagcgagaat gaaggcacca agaccatcgc caataacott 1860
 accagcacga ttcaggctct tacggactcg gaataaccagc tcccgtacgt cctcggctct 1920
 gcgcaccagg gctgcctgcc tccgttcccg gcggacgtct tcatgattcc tcagtacggg 1980
 tacctgactc tgaacaacgg cagtcaggcc gtgggcccgt cctccttcta ctgcctggag 2040
 tactttcctt ctcaaagtct gagaacgggc aacaactttg agttcagcta ccagtttgag 2100
 gacgtgcctt ttcacagcag ctacgcgcac agccaaagcc tggaccggct gacgaacccc 2160
 ctcatcgacc agtacctgta ctacctggcc cggaccaga gcactacggg gtccacaagg 2220
 gggctgcagt tccatcaggc tgggcccâac accatggccg agcaatcaaa gaactggctg 2280
 cccggaccct gttatcggca gcagagactg tcaââââââ tagacagcaa caacaacagt 2340
 aactttgcct ggaccggggc cactaaatac catctgaatg gtagaaattc attaaccaac 2400
 ccgggcgtag ccatggccac caacaaggac gacgaggacc agttctttcc catcaacgga 2460
 gtgctggttt ttggcaâââc gggggctgcc aacaagâââc cgtggââââ cgtgctaattg 2520
 accagcgagg aggagatcaa aaccaccaat ccgctggcta cagaagaata cgggtgtggtc 2580
 tccagcaacc tgcaatcgtc tacggccgga cccagacac agactgtcaa cagccagggg 2640
 gctctgcccg gcâtggctg gcagaaccgg gacgtgtacc tgcagggtcc catctgggcc 2700
 ââââttcctc acacggacgg caactttcac ccgtctcccc tgatggggcg atttggactc 2760
 ââââcccc ctcctcaaat tctcatcaag tatacttcca actactâââc atctââââ 2820
 gtggactttg ctgtcaatac tgagggtact tattcagagc ctgcâââââc tggcâââââc 2880
 tacctcâââc gtaââââc attgcctgtt âââââââââ cgggttaatt cgtttcagtt 2940
 gaactttggt ctctgcgaag ggcgaattc 2969

<210> 59
 <211> 3129
 <212> DNA
 <213> new AAV serotype, clone 44.2

<400> 59
 gaattcgccc ttctacggc tgcgtcaact ggaccaatga gaactttccc ttcaacgatt 60

gcgtcgacaa gatggtgatc tgggtgggagg agggcaagat gacggccaag gtcgtggagt 120
 ccgccaaggc cattctcggc ggcagcaaaag tgcgcgtgga ccaaaagtgc aagtcgtccg 180
 cccagatcga ccccaacccc gtgatcgtca cctccaacac caacatgtgc gccgtgattg 240
 acgggaacag caccaccttc gagcaccagc agccgttgca ggaccggatg ttcaagtttg 300
 aactcaccgc cgtctggag cagactttg gcaagggtgac aaagcaggaa gtcagagagt 360
 tcttccgctg ggcgcaggat cacgtgaccg aggtggcgca cgagttctac gtcagaaagg 420
 gtggagccaa caagagaccc gccccgatg acgcggataa aagcgagccc aagcgggcct 480
 gccccctagt cgcggatcca tcgacgtcag acgcggaagg agctccggtg gactttgccg 540
 acaggtagca aaacaaatgt tctcgtcagc cgggcatgct tcagatgctg tttccctgca 600
 aaacatgca gagaatgaat cagaatttca acatttgctt cagcagcgg accagagact 660
 gttcagaatg tttcccggc gtgtcagaat ctcaaccggt cgtcagaaaa aagacgtatc 720
 ggaaactctg tgcgattcat catctgctgg gggcgggcac ccgagattgc ttgctcggcc 780
 tgcgatctgg tcaacgtgga cctagatgac tgtgtttctg agcaataaat gacttaaacc 840
 aggtatggct gccgatggtt atcttcaga ttggctcgag gacaacctct ctgagggcat 900
 tcgcgagtgg tgggacttga aacctggagc cccgaaaccc aaagccaacc agcaaaagca 960
 ggacgacggc cggggtctgg tgcttcctgg ctacaagtac ctcggaacct tcaacggact 1020
 cgacaagggg gagcccgta acgcggcgga cgcagcggcc ctcgagcacg acaaggccta 1080
 cgaccagcag ctcaaagcgg gtgacaatcc gtacctgagg tataaccacg ccgacgccga 1140
 gtttcaggag cgtctgcaag aagatacgtc ttttggggc aacctcgggc gagcagtctt 1200
 ccaggccaag aagcgggttc tcgaacctct cggctctggt gaggaaggcg ctaagacggc 1260
 tcctggaaag aagagaccgg tagagccatc accccagcgt tctccagact cctctacggg 1320
 catcggcaag aaaggccagc agcccgcgaa aaagagactc aactttgggc agactggcga 1380
 ctcagagtca gtgcccagcc ctcaaccaat cggagaaccc cccgcaggcc cctctggtct 1440
 gggatctggt acaatggctg caggcgggtg cgtccaatg gcagacaata acgaaggcgc 1500
 cgacggagtg ggtagttcct caggaaattg gcattgcgat tccacatggc tgggcgacag 1560
 agtcatcacc accagcacc gaacctgggc cctccccacc tacaacaacc acctctacaa 1620
 gcaaactctc aaogggactt cgggaggaag caccaacgac aacacctact tcggctacag 1680
 cccccctgg gggatatttg actttaacag attccactgc cacttctcac cacgtgactg 1740
 gcagcgactc atcaacaaca actggggatt ccggccaag agactcaact tcaagctctt 1800
 caacatccag gtcaaggagg tcacgcagaa tgaaggcacc aagaccatcg ccaataacct 1860
 taccagcacg attcaggtct ttacggactc ggaataccag ctcccgtagc tcctcggctc 1920
 tgcgcaccag ggctgcctgc ctccgttccc ggcggacgtc ttcattgattc ctcagtacgg 1980

gtacctgact ctgaacaatg gcagtcaggc cgtggggccgt tcctccttct actgcctgga 2040
 gtactttcct tctcaaatgc tgagaacggg caacaacttt gagttcagct accagtttga 2100
 ggacgtgcct ttacacagca gctacgcgca cagccaaagc ctggacgggc tgatgaaccc 2160
 cctcatcgac cagtacdtgt actacctgtc tcggactcag tccacgggag gtaccgcagg 2220
 aactcagcag ttgctatttt ctcaggccgg gcctaataac atgtcggctc aggccaaaaa 2280
 ctggctaccc gggccctgct accggcagca acgcgtctcc acgacactgt cgcaaaataa 2340
 caacagcaac ttgctctgga cgggtgccac caagtatcat ctgaatggca gagactctct 2400
 ggtaaattccc ggtgtcgcta tggcaaccca caaggacgac gaagagcgat tttttccgtc 2460
 cagcggagtc ttaatgtttg ggaacacagg agctggaaaa gacaacgtgg actatagcag 2520
 cgttatgcta accagtgagg aagaaattaa aaccaccaac ccagtggcca cagaacagta 2580
 cggcgtggtg gccgataacc tgcaacagca aaacgccgct cctattgtag gggccgtcaa 2640
 cagtcaagga gccttacctg gcatggctctg gcagaaccgg gacgtgtacc tgcagggtcc 2700
 tatctggggc aagattcttc acacggacgg aaactttcat cctcgcgcgc tgatgggagg 2760
 ctttgactg aaacacccgc ctctcagat cctgattaag aatacacctg ttcccgggga 2820
 tcctccaact accttcagtc aagctaagct ggcgtcgttc atcacgcagt acagcacccg 2880
 acaggtcagc gtggaaattg aatgggagct gcagaaagaa aacagcaaac gctggaaccc 2940
 agagattcaa tacacttcca actactacaa atctacaaat gtggactttg ctgttaaac 3000
 agatggcact tattctgagc ctgcgcccat cggcaccgct tacctcacc gtaattctgta 3060
 attgcttgtt aatcaataaa ccggttgatt cgtttcagtt gaactttggt ctctgcgaag 3120
 ggcgaattc 3129

<210> 60
 <211> 733
 <212> PRT
 <213> capsid protein of AAV serotype, clone ClVP1

<400> 60

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Leu Glu Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly Lys
 145 150 155 160

Lys Gly Lys Gln Pro Ala Lys Lys Arg Leu Asn Phe Glu Glu Asp Thr
 165 170 175

Gly Ala Gly Asp Gly Pro Pro Glu Gly Ser Asp Thr Ser Ala Met Ser
 180 185 190

Ser Asp Ile Glu Met Arg Ala Ala Pro Gly Gly Asn Ala Val Asp Ala
 195 200 205

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

Asp Ser Thr Trp Ser Glu Gly Lys Val Thr Thr Thr Ser Thr Arg Thr
 225 230 235 240

Trp Val Leu Pro Thr Tyr Asn Asn His Leu Tyr Leu Arg Leu Gly Thr
 245 250 255

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

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

Arg Leu Ile Asn Asn Asn Trp Gly Leu Arg Pro Lys Ala Met Arg Val
 290 295 300

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

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

Ser Ser Tyr Glu Leu Pro Tyr Val Met Asp Ala Gly Gln Glu Gly Ser
 340 345 350

Leu Ser Pro Phe Pro Asn Asp Val Phe Met Val Pro Gln Tyr Gly Tyr
 355 360 365

Cys Gly Ile Val Thr Gly Glu Asn Gln Asn Gln Thr Asp Arg Asn Ala
 370 375 380

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

Asn Phe Glu Met Ala Tyr Asn Phe Gly Lys Val Pro Phe His Ser Met
 405 410 415

Tyr Ala Tyr Ser Gln Ser Pro Asp Arg Leu Met Asn Pro Leu Leu Asp
 420 425 430

Gln Tyr Leu Trp His Leu Gln Ser Thr Thr Ser Gly Glu Thr Leu Asn
 435 440 445

Gln Gly Asn Ala Ala Thr Thr Phe Gly Lys Ile Arg Ser Gly Asp Phe
 450 455 460

Ala Phe Tyr Arg Lys Asn Trp Leu Pro Gly Pro Cys Val Lys Gln Gln
 465 470 475 480

Arg Leu Ser Lys Thr Ala Ser Gln Asn Tyr Lys Ile Pro Ala Ser Gly
 485 490 495

Gly Asn Ala Leu Leu Lys Tyr Asp Thr His Tyr Thr Leu Asn Asn Arg
 500 505 510

Trp Ser Asn Ile Ala Pro Gly Pro Pro Met Ala Thr Ala Gly Pro Ser
 515 520 525

Asp Gly Asp Phe Ser Asn Ala Gln Leu Ile Phe Pro Gly Pro Ser Val
 530 535 540

Thr Gly Asn Thr Thr Thr Ser Ala Asn Asn Leu Leu Phe Thr Ser Glu
 545 550 555 560

Glu Glu Ile Ala Ala Thr Asn Pro Arg Asp Thr Asp Met Phe Gly Gln
 565 570 575

Ile Ala Asp Asn Asn Gln Asn Ala Thr Thr Ala Pro Ile Thr Gly Asn
580 585 590

Val Thr Ala Met Gly Val Leu Pro Gly Met Val Trp Gln Asn Arg Asp
595 600 605

Ile Tyr Tyr Gln Gly Pro Ile Trp Ala Lys Ile Pro His Ala Asp Gly
610 615 620

His Phe His Pro Ser Pro Leu Ile Gly Gly Phe Gly Leu Lys His Pro
625 630 635 640

Pro Pro Gln Ile Phe Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Ala
645 650 655

Thr Thr Phe Thr Ala Ala Arg Val Asp Ser Phe Ile Thr Gln Tyr Ser
660 665 670

Thr Gly Gln Val Ala Val Gln Ile Glu Trp Glu Ile Glu Lys Glu Arg
675 680 685

Ser Lys Arg Trp Asn Pro Glu Val Gln Phe Thr Ser Asn Tyr Gly Asn
690 695 700

Gln Ser Ser Met Leu Trp Ala Pro Asp Thr Thr Gly Lys Tyr Thr Glu
705 710 715 720

Pro Arg Val Ile Gly Ser Arg Tyr Leu Thr Asn His Leu
725 730

<210> 61
<211> 733
<212> PRT
<213> capsid protein of AAV serotype, clone C2VP1

<400> 61
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Leu
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe His Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Leu Glu Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly Lys
145 150 155 160

Lys Gly Lys Gln Pro Ala Lys Lys Arg Leu Asn Phe Glu Glu Asp Thr
165 170 175

Gly Ala Gly Asp Gly Pro Pro Glu Gly Ser Asp Thr Ser Ala Met Ser
180 185 190

Ser Asp Ile Glu Met Arg Ala Ala Pro Gly Gly Asn Ala Val Asp Ala
195 200 205

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

Asp Ser Thr Trp Ser Glu Gly Lys Val Thr Thr Thr Ser Thr Arg Thr
225 230 235 240

Trp Val Leu Pro Thr Tyr Asn Asn His Leu Tyr Leu Arg Leu Gly Thr
245 250 255

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

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

Arg Leu Ile Asn Asn Asn Trp Gly Leu Arg Pro Lys Ala Met Arg Val
290 295 300

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

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

Ser Ser Tyr Glu Leu Pro Tyr Val Met Asp Ala Gly Gln Glu Gly Ser
 340 345 350

Leu Pro Pro Phe Pro Asn Asp Val Phe Met Val Pro Gln Tyr Gly Tyr
 355 360 365

Cys Gly Ile Val Thr Gly Glu Asn Gln Asn Gln Thr Asp Arg Asn Ala
 370 375 380

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

Asn Phe Glu Met Ala Tyr Asn Phe Glu Lys Val Pro Phe His Ser Met
 405 410 415

Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro Leu Leu Asp
 420 425 430

Gln Tyr Leu Trp His Leu Gln Ser Thr Thr Ser Gly Glu Thr Leu Asn
 435 440 445

Gln Gly Asn Ala Ala Thr Thr Phe Gly Lys Ile Arg Ser Gly Asp Phe
 450 455 460

Ala Phe Tyr Arg Lys Asn Trp Leu Pro Gly Pro Cys Val Lys Gln Gln
 465 470 475 480

Arg Phe Ser Lys Thr Ala Ser Gln Asn Tyr Lys Ile Pro Ala Ser Gly
 485 490 495

Gly Asn Ala Leu Leu Lys Tyr Asp Thr His Tyr Thr Leu Asn Asn Arg
 500 505 510

Trp Ser Asn Ile Ala Pro Gly Pro Pro Met Ala Thr Ala Gly Pro Ser
 515 520 525

Asp Gly Asp Phe Ser Asn Ala Gln Leu Ile Phe Pro Gly Pro Ser Val
 530 535 540

Thr Gly Asn Thr Thr Thr Ser Ala Asn Asn Leu Leu Phe Thr Ser Glu
 545 550 555 560

Gly Glu Ile Ala Ala Thr Asn Pro Arg Asp Thr Asp Met Phe Gly Gln
 565 570 575

Ile Ala Asp Asn Asn Gln Asn Ala Thr Thr Ala Pro Ile Thr Gly Asn
 580 585 590

Val Thr Ala Met Gly Val Leu Pro Gly Met Val Trp Gln Asn Arg Asp
595 600 605

Ile Tyr Tyr Gln Gly Pro Ile Trp Ala Lys Ile Pro His Ala Asp Gly
610 615 620

His Phe His Pro Ser Pro Leu Ile Gly Gly Phe Gly Leu Lys His Pro
625 630 635 640

Pro Pro Gln Ile Phe Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Ala
645 650 655

Thr Thr Phe Thr Ala Ala Arg Val Asp Ser Phe Ile Thr Gln Tyr Ser
660 665 670

Thr Gly Gln Val Ala Val Gln Ile Glu Trp Glu Ile Glu Lys Glu Arg
675 680 685

Ser Lys Arg Arg Asn Pro Glu Val Gln Phe Thr Ser Asn Tyr Gly Asn
690 695 700

Gln Ser Ser Met Leu Trp Ala Pro Asp Thr Thr Gly Lys Tyr Thr Glu
705 710 715 720

Pro Arg Val Ile Gly Ser Arg Tyr Leu Thr Asn His Leu
725 730

<210> 62
<211> 733
<212> PRT
<213> capsid protein of AAV serotype, clone C5VP102

<400> 62
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Glu Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Leu Glu Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly Lys
 145 150 155 160

Lys Gly Lys Gln Pro Ala Lys Lys Arg Leu Asn Phe Glu Glu Asp Thr
 165 170 175

Gly Ala Gly Asp Gly Pro Pro Glu Gly Ser Asp Thr Ser Ala Met Ser
 180 185 190

Ser Asp Ile Glu Met Arg Ala Ala Pro Gly Gly Asn Ala Val Asp Ala
 195 200 205

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

Asp Ser Thr Trp Ser Glu Gly Lys Val Thr Thr Thr Ser Thr Arg Thr
 225 230 235 240

Trp Val Leu Pro Thr Tyr Asn Asn His Leu Tyr Leu Arg Leu Gly Thr
 245 250 255

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

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

Arg Leu Ile Asn Asn Asn Trp Gly Leu Arg Pro Lys Ala Met Arg Val
 290 295 300

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

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

Ser Ser Tyr Glu Leu Pro Tyr Val Met Asp Ala Gly Gln Glu Gly Ser
 340 345 350

Leu Pro Pro Phe Pro Asn Asp Val Phe Met Val Pro Gln Tyr Gly Tyr
 355 360 365

Cys Gly Ile Val Thr Gly Glu Asn Gln Asn Gln Thr Asp Arg Asn Ala
 370 375 380

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

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

Tyr Ala His Ser Gln Ser Leu Asp Gly Leu Met Asn Pro Leu Leu Asp
 420 425 430

Gln Tyr Leu Trp His Leu Gln Ser Thr Thr Ser Gly Glu Thr Leu Asn
 435 440 445

Gln Gly Asn Ala Ala Thr Thr Phe Gly Lys Ile Arg Ser Gly Asp Phe
 450 455 460

Ala Phe Tyr Arg Lys Asn Trp Leu Pro Gly Pro Cys Val Lys Gln Gln
 465 470 475 480

Arg Phe Ser Lys Thr Ala Ser Gln Asn Tyr Lys Ile Pro Ala Ser Gly
 485 490 495

Gly Asn Ala Leu Leu Lys Tyr Asp Thr His Tyr Thr Leu Asn Asn Arg
 500 505 510

Trp Ser Asn Ile Ala Pro Gly Pro Pro Met Ala Thr Ala Gly Pro Ser
 515 520 525

Asp Gly Asp Phe Ser Asn Ala Gln Leu Ile Phe Pro Gly Pro Ser Val
 530 535 540

Thr Gly Asn Thr Thr Thr Ser Ala Asn Asn Leu Leu Phe Thr Ser Glu
 545 550 555 560

Glu Glu Ile Ala Ala Thr Asn Pro Arg Asp Thr Asp Met Phe Gly Gln
 565 570 575

Ile Ala Asp Asn Asn Gln Asn Ala Thr Thr Ala Pro Ile Thr Gly Asn
 580 585 590

Val Thr Ala Met Gly Val Leu Pro Gly Met Val Trp Gln Asn Arg Asp
 595 600 605

Ile Tyr Tyr Gln Gly Pro Ile Trp Ala Lys Ile Pro His Ala Asp Gly
610 615 620

His Phe His Pro Ser Pro Leu Ile Gly Gly Phe Gly Leu Lys His Pro
625 630 635 640

Pro Pro Gln Ile Phe Ile Lys Asn Thr Pro Val Pro Ala Tyr Pro Ala
645 650 655

Thr Thr Phe Thr Ala Ala Arg Val Asp Ser Phe Ile Thr Gln Tyr Ser
660 665 670

Thr Gly Gln Val Ala Val Gln Ile Glu Trp Glu Ile Glu Lys Glu Arg
675 680 685

Ser Lys Arg Trp Asn Pro Glu Val Gln Phe Thr Ser Asn Cys Gly Asn
690 695 700

Gln Ser Ser Met Leu Trp Ala Pro Asp Thr Thr Gly Lys Tyr Thr Glu
705 710 715 720

Pro Arg Val Ile Gly Ser Arg Tyr Leu Thr Asn His Leu
725 730

<210> 63
<211> 734
<212> PRT
<213> capsid protein of AAV serotype, clone AAV4VP1

<400> 63
Met Thr Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser Glu
1 5 10 15

Gly Val Arg Glu Trp Trp Ala Leu Gln Pro Gly Ala Pro Lys Pro Lys
20 25 30

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

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

Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp Gln
65 70 75 80

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

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

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

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

Leu Ile Glu Ser Pro Gln Gln Pro Asp Ser Ser Thr Gly Ile Gly Lys
145 150 155 160

Lys Gly Lys Gln Pro Ala Lys Lys Lys Leu Val Phe Glu Asp Glu Thr
165 170 175

Gly Ala Gly Asp Gly Pro Pro Glu Gly Ser Thr Ser Gly Ala Met Ser
180 185 190

Asp Asp Ser Glu Met Arg Ala Ala Ala Gly Gly Ala Ala Val Glu Gly
195 200 205

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

Asp Ser Thr Trp Ser Glu Gly His Val Thr Thr Thr Ser Thr Arg Thr
225 230 235 240

Trp Val Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Arg Leu Gly Glu
245 250 255

Ser Leu Gln Ser Asn Thr Tyr Asn Gly Phe Ser Thr Pro Trp Gly Tyr
260 265 270

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

Arg Leu Ile Asn Asn Asn Trp Gly Met Arg Pro Lys Ala Met Arg Val
290 295 300

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

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

Ser Ser Tyr Glu Leu Pro Tyr Val Met Asp Ala Gly Gln Glu Gly Ser
340 345 350

Leu Pro Pro Phe Pro Asn Asp Val Phe Met Val Pro Gln Tyr Gly Tyr
355 360 365

Cys Gly Leu Val Thr Gly Asn Thr Ser Gln Gln Gln Thr Asp Arg Asn
 370 375 380

Ala Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg Thr Gly
 385 390 395 400

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

Met Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro Leu Ile
 420 425 430

Asp Gln Tyr Leu Trp Gly Leu Gln Ser Thr Thr Thr Gly Thr Thr Leu
 435 440 445

Asn Ala Gly Thr Ala Thr Thr Asn Phe Thr Lys Leu Arg Pro Thr Asn
 450 455 460

Phe Ser Asn Phe Lys Lys Asn Trp Leu Pro Gly Pro Ser Ile Lys Gln
 465 470 475 480

Gln Gly Phe Ser Lys Thr Ala Asn Gln Asn Tyr Lys Ile Pro Ala Thr
 485 490 495

Gly Ser Asp Ser Leu Ile Lys Tyr Glu Thr His Ser Thr Leu Asp Gly
 500 505 510

Arg Trp Ser Ala Leu Thr Pro Gly Pro Pro Met Ala Thr Ala Gly Pro
 515 520 525

Ala Asp Ser Lys Phe Ser Asn Ser Gln Leu Ile Phe Ala Gly Pro Lys
 530 535 540

Gln Asn Gly Asn Thr Ala Thr Val Pro Gly Thr Leu Ile Phe Thr Ser
 545 550 555 560

Glu Glu Glu Leu Ala Ala Thr Asn Ala Thr Asp Thr Asp Met Trp Gly
 565 570 575

Asn Leu Pro Gly Gly Asp Gln Ser Asn Ser Asn Leu Pro Thr Val Asp
 580 585 590

Arg Leu Thr Ala Leu Gly Ala Val Pro Gly Met Val Trp Gln Asn Arg
 595 600 605

Asp Ile Tyr Tyr Gln Gly Pro Ile Trp Ala Lys Ile Pro His Thr Asp
 610 615 620

Gly His Phe His Pro Ser Pro Leu Ile Gly Gly Phe Gly Leu Lys His
625 630 635 640

Pro Pro Pro Gln Ile Phe Ile Lys Asn Thr Pro Val Pro Ala Asn Pro
645 650 655

Ala Thr Thr Phe Ser Ser Thr Pro Val Asn Ser Phe Ile Thr Gln Tyr
660 665 670

Ser Thr Gly Gln Val Ser Val Gln Ile Asp Trp Glu Ile Gln Lys Glu
675 680 685

Arg Ser Lys Arg Trp Asn Pro Glu Val Gln Phe Thr Ser Asn Tyr Gly
690 695 700

Gln Gln Asn Ser Leu Leu Trp Ala Pro Asp Ala Ala Gly Lys Tyr Thr
705 710 715 720

Glu Pro Arg Ala Ile Gly Thr Arg Tyr Leu Thr His His Leu
725 730

<210> 64

<211> 736

<212> PRT

<213> capsid protein of AAV serotype, clone AAV1

<400> 64

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly
 145 150 155 160

Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
 180 185 190

Ala Thr Pro Ala Ala Val Gly Pro Thr Thr Met Ala Ser Gly Gly Gly
 195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala
 210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255

Tyr Lys Gln Ile Ser Ser Ala Ser Thr Gly Ala Ser Asn Asp Asn His
 260 265 270

Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
 275 280 285

His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
 290 295 300

Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln
 305 310 315 320

Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
 325 330 335

Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro
 340 345 350

Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
 355 360 365

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
 370 375 380

Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
 385 390 395 400
 Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
 405 410 415
 Glu Glu Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp
 420 425 430
 Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Asn Arg
 435 440 445
 Thr Gln Asn Gln Ser Gly Ser Ala Gln Asn Lys Asp Leu Leu Phe Ser
 450 455 460
 Arg Gly Ser Pro Ala Gly Met Ser Val Gln Pro Lys Asn Trp Leu Pro
 465 470 475 480
 Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Lys Thr Lys Thr Asp Asn
 485 490 495
 Asn Asn Ser Asn Phe Thr Trp Thr Gly Ala Ser Lys Tyr Asn Leu Asn
 500 505 510
 Gly Arg Glu Ser Ile Ile Asn Pro Gly Thr Ala Met Ala Ser His Lys
 515 520 525
 Asp Asp Glu Asp Lys Phe Phe Pro Met Ser Gly Val Met Ile Phe Gly
 530 535 540
 Lys Glu Ser Ala Gly Ala Ser Asn Thr Ala Leu Asp Asn Val Met Ile
 545 550 555 560
 Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Arg
 565 570 575
 Phe Gly Thr Val Ala Val Asn Phe Gln Ser Ser Ser Thr Asp Pro Ala
 580 585 590
 Thr Gly Asp Val His Ala Met Gly Ala Leu Pro Gly Met Val Trp Gln
 595 600 605
 Asp Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 610 615 620
 Thr Asp Gly His Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 625 630 635 640

Lys Asn Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
645 650 655

Asn Pro Pro Ala Glu Phe Ser Ala Thr Lys Phe Ala Ser Phe Ile Thr
660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
675 680 685

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

Tyr Ala Lys Ser Ala Asn Val Asp Phe Thr Val Asp Asn Asn Gly Leu
705 710 715 720

Tyr Thr Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
725 730 735

<210> 65

<211> 736

<212> PRT

<213> capsid protein of AAV serotype, clone AAV6VP1

<400> 65

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly
 145 150 155 160
 Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175
 Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
 180 185 190
 Ala Thr Pro Ala Ala Val Gly Pro Thr Thr Met Ala Ser Gly Gly Gly
 195 200 205
 Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala
 210 215 220
 Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 225 230 235 240
 Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255
 Tyr Lys Gln Ile Ser Ser Ala Ser Thr Gly Ala Ser Asn Asp Asn His
 260 265 270
 Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
 275 280 285
 His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
 290 295 300
 Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln
 305 310 315 320
 Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
 325 330 335
 Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro
 340 345 350
 Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
 355 360 365
 Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
 370 375 380
 Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
 385 390 395 400

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
405 410 415

Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp
420 425 430

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Asn Arg
435 440 445

Thr Gln Asn Gln Ser Gly Ser Ala Gln Asn Lys Asp Leu Leu Phe Ser
450 455 460

Arg Gly Ser Pro Ala Gly Met Ser Val Gln Pro Lys Asn Trp Leu Pro
465 470 475 480

Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Lys Thr Lys Thr Asp Asn
485 490 495

Asn Asn Ser Asn Phe Thr Trp Thr Gly Ala Ser Lys Tyr Asn Leu Asn
500 505 510

Gly Arg Glu Ser Ile Ile Asn Pro Gly Thr Ala Met Ala Ser His Lys
515 520 525

Asp Asp Lys Asp Lys Phe Phe Pro Met Ser Gly Val Met Ile Phe Gly
530 535 540

Lys Glu Ser Ala Gly Ala Ser Asn Thr Ala Leu Asp Asn Val Met Ile
545 550 555 560

Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Arg
565 570 575

Phe Gly Thr Val Ala Val Asn Leu Gln Ser Ser Ser Thr Asp Pro Ala
580 585 590

Thr Gly Asp Val His Val Met Gly Ala Leu Pro Gly Met Val Trp Gln
595 600 605

Asp Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
610 615 620

Thr Asp Gly His Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
625 630 635 640

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
645 650 655

Asn Pro Pro Ala Glu Phe Ser Ala Thr Lys Phe Ala Ser Phe Ile Thr
660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
675 680 685

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

Tyr Ala Lys Ser Ala Asn Val Asp Phe Thr Val Asp Asn Asn Gly Leu
705 710 715 720

Tyr Thr Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Pro Leu
725 730 735

<210> 66

<211> 735

<212> PRT

<213> capsid protein of AAV serotype, clone A3.3

<400> 66

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Thr Leu Ser
1 5 10 15

Glu Gly Ile Arg Gln Trp Trp Lys Leu Lys Pro Gly Pro Pro Pro Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Gln Ser Pro Ala Glu Pro Asp Ser Ser Ser Gly Ile Gly
145 150 155 160

Lys Ser Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Thr Glu Ser Val Pro Gly Pro Gln Pro Ile Gly Glu Pro Pro
180 185 190

Ala Ala Pro Ser Gly Val Gly Ser Asn Thr Met Ala Ser Gly Gly Gly
195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Met Gly Asp Arg Val Ile
225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
245 250 255

Tyr Lys Gln Ile Ser Ser Glu Ser Gly Ala Thr Asn Asp Asn His Tyr
260 265 270

Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His
275 280 285

Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp
290 295 300

Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln Val
305 310 315 320

Lys Glu Val Thr Gln Asn Asp Gly Thr Thr Thr Ile Ala Asn Asn Leu
325 330 335

Thr Ser Ala Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr
340 345 350

Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp
355 360 365

Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser
370 375 380

Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser
385 390 395 400

Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe Glu
 405 410 415
 Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg
 420 425 430
 Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Lys Thr
 435 440 445
 Gln Gly Thr Ser Gly Thr Thr Gln Gln Ser Arg Leu Gln Phe Ser Gln
 450 455 460
 Ala Gly Pro Ser Ser Met Ala Gln Gln Ala Lys Asn Trp Leu Pro Gly
 465 470 475 480
 Pro Ser Tyr Arg Gln Gln Arg Met Ser Lys Thr Ala Asn Asp Asn Asn
 485 490 495
 Asn Ser Glu Phe Ala Trp Thr Ala Ala Thr Lys Tyr Tyr Leu Asn Gly
 500 505 510
 Arg Asn Ser Leu Val Asn Pro Gly Pro Pro Val Ala Ser His Lys Asp
 515 520 525
 Asp Glu Glu Lys Tyr Phe Pro Met His Gly Asn Leu Ile Phe Gly Lys
 530 535 540
 Gln Gly Thr Gly Thr Thr Asn Val Asp Ile Glu Ser Val Leu Ile Thr
 545 550 555 560
 Asp Glu Glu Glu Ile Arg Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr
 565 570 575
 Gly Gln Val Ala Thr Asn His Gln Ser Gln Asn Thr Thr Ala Ser Tyr
 580 585 590
 Gly Ser Val Asp Ser Gln Gly Ile Leu Pro Gly Met Val Trp Gln Asp
 595 600 605
 Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Thr Pro His Thr
 610 615 620
 Asp Gly His Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu Lys
 625 630 635 640
 His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asn
 645 650 655

Pro Ala Thr Thr Phe Thr Pro Gly Lys Phe Ala Ser Phe Ile Thr Gln
660 665, 670

Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys
675 680 685

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

Asn Lys Ser Val Asn Val Glu Phe Thr Val Asp Ala Asn Gly Val Tyr
705 710 715 720

Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725 730 735

<210> 67

<211> 735.

<212> PRT

<213> capsid protein of AAV serotype, clone A3.7

<400> 67

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Thr Leu Ser
1 5 10 15

Glu Gly Ile Arg Gln Trp Trp Lys Leu Lys Pro Gly Pro Pro Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Gln Ser Pro Ala Glu Pro Asp Ser Ser Ser Gly Ile Gly
145 150 155 160

Lys Ser Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Thr Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
180 185 190

Ala Ala Pro Ser Gly Val Gly Ser Asn Thr Met Ala Ser Gly Gly Gly
195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Met Gly Asp Arg Val Ile
225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn Arg Leu
245 250 255

Tyr Lys Gln Ile Ser Ser Glu Ser Gly Ala Thr Asn Asp Asn His Tyr
260 265 270

Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His
275 280 285

Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp
290 295 300

Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln Val
305 310 315 320

Lys Glu Val Thr Gln Asn Asp Gly Thr Thr Thr Ile Ala Asn Asn Leu
325 330 335

Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr
340 345 350

Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp
355 360 365

Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser
370 375 380

Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser
385 390 395 400

Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe Glu
405 410 415

Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg
 420 425 430

Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Lys Thr
 435 440 445

Gln Gly Thr Ser Gly Thr Thr Gln Gln Ser Arg Leu Gln Phe Ser Gln
 450 455 460

Ala Gly Pro Ser Ser Met Ala Gln Gln Ala Lys Asn Trp Leu Pro Gly
 465 470 475 480

Pro Ser Tyr Arg Gln Gln Arg Met Ser Lys Thr Ala Asn Asp Asn Asn
 485 490 495

Asn Ser Glu Phe Ala Trp Thr Ala Ala Thr Lys Tyr Tyr Leu Asn Gly
 500 505 510

Arg Asn Ser Leu Val Asn Pro Gly Pro Pro Met Ala Ser His Lys Asp
 515 520 525

Asp Glu Glu Lys Tyr Phe Pro Met His Gly Asn Leu Ile Phe Gly Lys
 530 535 540

Gln Gly Thr Gly Thr Thr Asn Val Asp Ile Glu Ser Val Leu Ile Thr
 545 550 555 560

Asp Glu Glu Glu Ile Arg Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr
 565 570 575

Gly Gln Val Ala Thr Asn His Gln Ser Gln Asn Thr Thr Ala Ser Tyr
 580 585 590

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

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

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

His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asn
 645 650 655

Pro Ala Thr Thr Phe Thr Pro Gly Lys Phe Ala Ser Phe Ile Thr Gln
 660 665 670

Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys
675 680 685

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

Asn Lys Ser Val Asn Val Glu Phe Thr Val Asp Ala Asn Gly Val Tyr
705 710 715 720

Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725 730 735

<210> 68
<211> 735
<212> PRT
<213> capsid protein of AAV serotype, clone A3.4

<400> 68
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Thr Leu Ser
1 5 10 15

Glu Gly Ile Arg Gln Trp Trp Lys Leu Lys Pro Gly Pro Pro Pro Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Gln Ser Pro Ala Glu Pro Asp Ser Ser Ser Gly Ile Gly
145 150 155 160

Glu Ser Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Thr Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
 180 185 190

Ala Ala Pro Ser Gly Val Gly Ser Asn Thr Met Ala Ser Gly Gly Gly
 195 200 205

Ala Pro Met Ala Asp Asp Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Met Gly Asp Arg Val Ile
 225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255

Tyr Lys Gln Ile Ser Ser Glu Ser Gly Ala Thr Asn Asp Asn His Tyr
 260 265 270

Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His
 275 280 285

Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp
 290 295 300

Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln Val
 305 310 315 320

Lys Glu Val Thr Gln Asn Asp Gly Thr Thr Thr Ile Ala Asn Asn Leu
 325 330 335

Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr
 340 345 350

Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp
 355 360 365

Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser
 370 375 380

Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser
 385 390 395 400

Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe Glu
 405 410 415

Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg
 420 425 430

Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Lys Thr
 435 440 445

Gln Gly Thr Ser Gly Thr Thr Gln Gln Ser Arg Leu Gln Phe Ser Gln
 450 455 460

Ala Gly Pro Ser Ser Met Ala Gln Gln Ala Lys Asn Trp Leu Pro Gly
 465 470 475 480

Pro Ser Tyr Arg Gln Gln Arg Met Ser Lys Thr Ala Asn Asp Asn Asn
 485 490 495

Asn Ser Glu Phe Ala Trp Thr Ala Ala Thr Lys Tyr Tyr Leu Asn Gly
 500 505 510

Arg Asn Ser Leu Val Asn Pro Gly Pro Pro Met Ala Ser His Lys Asp
 515 520 525

Asp Glu Glu Lys Tyr Phe Pro Met His Gly Asn Leu Ile Phe Gly Lys
 530 535 540

Gln Gly Thr Gly Thr Thr Asn Val Asp Ile Glu Ser Val Leu Ile Thr
 545 550 555 560

Asp Glu Glu Glu Ile Arg Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr
 565 570 575

Gly Gln Val Ala Thr Asn His Gln Ser Gln Asp Thr Thr Ala Ser Tyr
 580 585 590

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

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

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

His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asn
 645 650 655

Pro Ala Thr Thr Phe Thr Pro Gly Lys Phe Ala Ser Phe Ile Thr Gln
 660 665 670

Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys
 675 680 685

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

Asn Lys Ser Val Asn Val Glu Phe Thr Val Asp Ala Asn Gly Val Tyr
705 710 715 720

Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725 730 735

<210> 69

<211> 735

<212> PRT

<213> capsid protein of AAV serotype, clone A3.5

<400> 69

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Thr Leu Ser
1 5 10 15

Glu Gly Ile Arg Gln Trp Trp Lys Leu Lys Pro Gly Pro Pro Pro Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Gln Ser Pro Ala Glu Pro Asp Ser Ser Ser Gly Ile Gly
145 150 155 160

Lys Ser Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Thr Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
180 185 190

Ala Ala Pro Ser Gly Val Gly Ser Asn Thr Met Ala Ser Gly Gly Gly
 195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Met Gly Asp Arg Val Ile
 225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255

Tyr Lys Gln Ile Ser Ser Glu Ser Gly Ala Thr Asn Asp Asn His Tyr
 260 265 270

Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His
 275 280 285

Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp
 290 295 300

Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln Val
 305 310 315 320

Lys Glu Val Thr Gln Asn Asp Gly Thr Thr Thr Ile Ala Asn Asn Leu
 325 330 335

Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr
 340 345 350

Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp
 355 360 365

Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser
 370 375 380

Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser
 385 390 395 400

Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe Glu
 405 410 415

Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg
 420 425 430

Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Lys Thr
 435 440 445

Gln Gly Thr Ser Gly Thr Thr Gln Gln Ser Arg Leu Gln Phe Asn Gln
 450 455 460

Ala Gly Pro Ser Ser Met Ala Gln Gln Ala Lys Asn Trp Leu Pro Gly
 465 470 475 480

Pro Ser Tyr Arg Gln Gln Arg Met Ser Lys Thr Ala Asn Asp Asn Asn
 485 490 495

Asn Ser Glu Phe Ala Trp Thr Ala Ala Thr Lys Tyr Tyr Pro Asn Gly
 500 505 510

Arg Asn Ser Leu Val Asn Pro Gly Pro Pro Met Ala Ser His Lys Asp
 515 520 525

Asp Glu Glu Lys Tyr Phe Pro Met His Gly Asn Leu Ile Phe Gly Lys
 530 535 540

Gln Gly Thr Gly Thr Thr Asn Val Asp Ile Glu Ser Val Leu Ile Thr
 545 550 555 560

Asp Glu Glu Glu Ile Arg Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr
 565 570 575

Gly Gln Val Ala Thr Asn Arg Gln Ser Gln Asn Thr Thr Ala Ser Tyr
 580 585 590

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

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

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

His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asn
 645 650 655

Pro Ala Thr Thr Phe Thr Pro Gly Lys Phe Ala Ser Phe Ile Thr Gln
 660 665 670

Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys
 675 680 685

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

Asn Lys Ser Val Asn Val Glu Phe Thr Val Asp Ala Asn Gly Val Tyr
 705 710 715 720

Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
 725 730 735

<210> 70

<211> 735

<212> PRT

<213> capsid protein of AAV serotype, clone AAV2

<400> 70

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Thr Leu Ser
 1 5 10 15

Glu Gly Ile Arg Gln Trp Trp Lys Leu Lys Pro Gly Pro Pro Pro Pro
 20 25 30

Lys Pro Ala Glu Arg His Lys Asp Asp Ser Arg Gly Leu Val Leu Pro
 35 40 45

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Val Glu His Ser Pro Val Glu Pro Asp Ser Ser Ser Gly Thr Gly
 145 150 155 160

Lys Ala Gly Gln Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175

Gly Asp Ala Asp Ser Val Pro Asp Pro Gln Pro Leu Gly Gln Pro Pro
 180 185 190

Ala Ala Pro Ser Gly Leu Gly Thr Asn Thr Met Ala Thr Gly Ser Gly
 195 200 205
 Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220
 Ser Gly Asn Trp His Cys Asp Ser Thr Trp Met Gly Asp Arg Val Ile
 225 230 235 240
 Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255
 Tyr Lys Gln Ile Ser Ser Gln Ser Gly Ala Ser Asn Asp Asn His Tyr
 260 265 270
 Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His
 275 280 285
 Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp
 290 295 300
 Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln Val
 305 310 315 320
 Lys Glu Val Thr Gln Asn Asp Gly Thr Thr Thr Ile Ala Asn Asn Leu
 325 330 335
 Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr
 340 345 350
 Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp
 355 360 365
 Val Phe Met Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser
 370 375 380
 Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser
 385 390 395 400
 Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe Glu
 405 410 415
 Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg
 420 425 430
 Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Arg Thr
 435 440 445

Asn Thr Pro Ser Gly Thr Thr Thr Gln Ser Arg Leu Gln Phe Ser Gln
 450 455 460

Ala Gly Ala Ser Asp Ile Arg Asp Gln Ser Arg Asn Trp Leu Pro Gly
 465 470 475 480

Pro Cys Tyr Arg Gln Gln Arg Val Ser Lys Thr Ser Ala Asp Asn Asn
 485 490 495

Asn Ser Glu Tyr Ser Trp Thr Gly Ala Thr Lys Tyr His Leu Asn Gly
 500 505 510

Arg Asp Ser Leu Val Asn Pro Gly Pro Ala Met Ala Ser His Lys Asp
 515 520 525

Asp Glu Glu Lys Phe Phe Pro Gln Ser Gly Val Leu Ile Phe Gly Lys
 530 535 540

Gln Gly Ser Glu Lys Thr Asn Val Asp Ile Glu Lys Val Met Ile Thr
 545 550 555 560

Asp Glu Glu Glu Ile Arg Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr
 565 570 575

Gly Ser Val Ser Thr Asn Leu Gln Arg Gly Asn Arg Gln Ala Ala Thr
 580 585 590

Ala Asp Val Asn Thr Gln Gly Val Leu Pro Gly Met Val Trp Gln Asp
 595 600 605

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

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

His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asn
 645 650 655

Pro Ser Thr Thr Phe Ser Ala Ala Lys Phe Ala Ser Phe Ile Thr Gln
 660 665 670

Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys
 675 680 685

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

Asn Lys Ser Val Asn Val Asp Phe Thr Val Asp Thr Asn Gly Val Tyr
 705 710 715 720

Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
 725 730 735

<210> 71

<211> 736

<212> PRT

<213> capsid protein of AAV serotype, clone AAV3

<400> 71

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Ala Leu Lys Pro Gly Val Pro Gln Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Gly Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Ala Val Asp Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Val Gly
 145 150 155 160

Lys Ser Gly Lys Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
 180 185 190

Ala Ala Pro Thr Ser Leu Gly Ser Asn Thr Met Ala Ser Gly Gly Gly
 195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220
 Ser Gly Asn Trp His Cys Asp Ser Gln Trp Leu Gly Asp Arg Val Ile
 225 230 235 240
 Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255
 Tyr Lys Gln Ile Ser Ser Gln Ser Gly Ala Ser Asn Asp Asn His Tyr
 260 265 270
 Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His
 275 280 285
 Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp
 290 295 300
 Gly Phe Arg Pro Lys Lys Leu Ser Phe Lys Leu Phe Asn Ile Gln Val
 305 310 315 320
 Arg Gly Val Thr Gln Asn Asp Gly Thr Thr Thr Ile Ala Asn Asn Leu
 325 330 335
 Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr
 340 345 350
 Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp
 355 360 365
 Val Phe Met Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser
 370 375 380
 Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser
 385 390 395 400
 Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Thr Phe Glu
 405 410 415
 Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg
 420 425 430
 Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Asn Arg Thr
 435 440 445
 Gln Gly Thr Thr Ser Gly Thr Thr Asn Gln Ser Arg Leu Leu Phe Ser
 450 455 460

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

Gly Pro Cys Tyr Arg Gln Gln Arg Leu Ser Lys Thr Ala Asn Asp Asn
 485 490 495

Asn Asn Ser Asn Phe Pro Trp Thr Ala Ala Ser Lys Tyr His Leu Asn
 500 505 510

Gly Arg Asp Ser Leu Val Asn Pro Gly Pro Ala Met Ala Ser His Lys
 515 520 525

Asp Asp Glu Glu Lys Phe Phe Pro Met His Gly Asn Leu Ile Phe Gly
 530 535 540

Lys Glu Gly Thr Thr Ala Ser Asn Ala Glu Leu Asp Asn Val Met Ile
 545 550 555 560

Thr Asp Glu Glu Glu Ile Arg Thr Thr Asn Pro Val Ala Thr Glu Gln
 565 570 575

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

Thr Gly Thr Val Asn His Gln Gly Ala Leu Pro Gly Met Val Trp Gln
 595 600 605

Asp Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 610 615 620

Thr Asp Gly His Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 625 630 635 640

Lys His Pro Pro Pro Gln Ile Met Ile Lys Asn Thr Pro Val Pro Ala
 645 650 655

Asn Pro Pro Thr Thr Phe Ser Pro Ala Lys Phe Ala Ser Phe Ile Thr
 660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 675 680 685

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

Tyr Asn Lys Ser Val Asn Val Asp Phe Thr Val Asp Thr Asn Gly Val
 705 710 715 720

Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725 730 735

<210> 72

<211> 737

<212> PRT

<213> capsid protein of AAV serotype, clone 3.3bVP1

<400> 72

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro
180 185 190

Pro Ala Ala Pro Ser Ser Val Gly Ser Gly Thr Val Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn
 210 215 220

Ala Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Glu Gln Ile Ser Ser Glu Thr Ala Gly Ser Thr Asn Asp Asn
 260 265 270

Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
 275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
 290 295 300

Asn Trp Gly Phe Arg Pro Lys Lys Leu Arg Phe Lys Leu Phe Asn Ile
 305 310 315 320

Gln Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn
 325 330 335

Asn Leu Thr Ser Thr Ile Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu
 340 345 350

Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro
 355 360 365

Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn
 370 375 380

Gly Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
 385 390 395 400

Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Ser
 405 410 415

Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
 420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala
 435 440 445

Arg Thr Gln Ser Asp Pro Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln
 450 455 460

Phe Tyr Gln Gly Gly Pro Ser Thr Met Ala Glu Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525

His Lys Asp Asp Glu Asp Arg Phe Phe Pro Ser Ser Gly Val Leu Ile
 530 535 540

Phe Gly Lys Thr Gly Ala Thr Asn Lys Thr Thr Leu Glu Asn Val Leu
 545 550 555 560

Met Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu
 565 570 575

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

Gln Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp
 595 600 605

Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro
 610 615 620

His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly
 625 630 635 640

Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro
 645 650 655

Ala Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Phe Ala Ser Phe Ile
 660 665 670

Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu
 675 680 685

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

Asn Phe Glu Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly
 705 710 715 720

Val Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn
725 730 735

Leu

<210> 73

<211> 644

<212> PRT

<213> capsid protein of AAV serotype, clone 223-4

<400> 73

Lys Ala Tyr Asp Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg
1 5 10 15

Tyr Asn His Ala Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr
20 25 30

Ser Phe Gly Gly Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg
35 40 45

Val Leu Glu Pro Leu Gly Leu Val Glu Thr Pro Ala Lys Thr Ala Pro
50 55 60

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

Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
85 90 95

Gly Asp Ser Glu Pro Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
100 105 110

Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly
115 120 125

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala
130 135 140

Ser Gly Asn Trp His Cys Asp Ser Thr Arg Leu Gly Asp Arg Val Ile
145 150 155 160

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
165 170 175

Tyr Lys Gln Ile Ser Ser Gln Ser Ala Gly Ser Thr Asn Asp Asn Val
180 185 190

Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
195 200 205

His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
 210 215 220

Trp Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln
 225 230 235 240

Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
 245 250 255

Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro
 260 265 270

Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
 275 280 285

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
 290 295 300

Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
 305 310 315 320

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
 325 330 335

Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Gly
 340 345 350

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg
 355 360 365

Thr Gln Ser Asn Ala Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln Phe
 370 375 380

Tyr Gln Gly Gly Pro Thr Thr Met Ala Glu Gln Ala Lys Asn Trp Leu
 385 390 395 400

Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp Gln
 405 410 415

Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu
 420 425 430

Asn Gly Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His
 435 440 445

Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe
 450 455 460

Gly Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met
 465 470 475 480

Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu Glu
 485 490 495

Tyr Gly Ile Val Ser Ser Asn Leu Gln Ala Ala Ser Thr Ala Ala Gln
 500 505 510

Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp Gln
 515 520 525

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 530 535 540

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 545 550 555 560

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 565 570 575

Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Phe Ala Ser Phe Ile Thr
 580 585 590

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 595 600 605

Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn
 610 615 620

Phe Asp Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly Val
 625 630 635 640

Tyr Ser Glu Pro

<210> 74
 <211> 644
 <212> PRT
 <213> capsid protein of AAV serotype, clone 223.5

<400> 74
 Lys Ala Tyr Asp Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg
 1 5 10 15

Tyr Asn His Ala Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr
 20 25 30

Ser Phe Gly Gly Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg
 35 40 45

Val Leu Glu Pro Leu Gly Leu Val Glu Thr Pro Ala Lys Thr Ala Pro
 50 55 60

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

Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 85 90 95

Gly Asp Ser Glu Pro Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
 100 105 110

Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly
 115 120 125

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala
 130 135 140

Ser Gly Asn Trp His Cys Asp Ser Thr Arg Leu Gly Asp Arg Val Ile
 145 150 155 160

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 165 170 175

Tyr Lys Gln Ile Ser Ser Gln Ser Ala Gly Ser Thr Asn Asp Asn Val
 180 185 190

Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
 195 200 205

His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
 210 215 220

Trp Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln
 225 230 235 240

Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
 245 250 255

Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro
 260 265 270

Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
 275 280 285

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
 290 295 300

Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
305 310 315 320

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
325 330 335

Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Gly
340 345 350

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg
355 360 365

Thr Gln Ser Asn Ala Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln Phe
370 375 380

Tyr Gln Gly Gly Pro Thr Thr Met Ala Glu Gln Ala Lys Asn Trp Leu
385 390 395 400

Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp Gln
405 410 415

Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu
420 425 430

Asn Gly Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His
435 440 445

Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe
450 455 460

Gly Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met
465 470 475 480

Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu Glu
485 490 495

Tyr Gly Ile Val Ser Ser Asn Leu Gln Ala Ala Ser Thr Ala Ala Gln
500 505 510

Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp Gln
515 520 525

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
530 535 540

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
545 550 555 560

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
565 570 575

Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Phe Ala Ser Phe Ile Thr
580 585 590

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
595 600 605

Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn
610 615 620

Phe Asp Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly Val
625 630 635 640

Tyr Ser Glu Pro

<210> 75
<211> 644
<212> PRT
<213> capsid protein of AAV serotype, clone 223.10

<220>
<221> MISC_FEATURE
<222> (434)..(434)
<223> can be any amino acid

<400> 75

Lys Ala Tyr Asp Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg
1 5 10 15

Tyr Asn His Ala Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr
20 25 30

Ser Phe Gly Gly Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg
35 40 45

Val Leu Glu Pro Leu Gly Leu Val Glu Thr Pro Ala Lys Thr Ala Pro
50 55 60

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

Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
85 90 95

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
100 105 110

Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly
115 120 125

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala
130 135 140

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
145 150 155 160

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
165 170 175

Tyr Lys Gln Ile Ser Ser Gln Ser Ala Gly Ser Thr Asn Asp Asn Val
180 185 190

Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
195 200 205

His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
210 215 220

Trp Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln
225 230 235 240

Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
245 250 255

Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro
260 265 270

Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
275 280 285

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
290 295 300

Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
305 310 315 320

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
325 330 335

Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp
340 345 350

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg
355 360 365

Thr Gln Ser Asn Ala Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln Phe
 370 375 380

Tyr Gln Gly Gly Pro Thr Thr Met Ala Glu Gln Ala Lys Asn Trp Leu
 385 390 395 400

Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp Gln
 405 410 415

Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu
 420 425 430

Asn Xaa Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His
 435 440 445

Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe
 450 455 460

Gly Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met
 465 470 475 480

Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu Glu
 485 490 495

Tyr Gly Ile Val Ser Ser Asn Leu Gln Ala Ala Ser Thr Ala Ala Gln
 500 505 510

Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp Gln
 515 520 525

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 530 535 540

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 545 550 555 560

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 565 570 575

Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Phe Ala Ser Phe Ile Thr
 580 585 590

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 595 600 605

Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn
 610 615 620

Phe Asp Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly Val
 625 630 635 640

Tyr Ser Glu Pro

<210> 76
 <211> 644
 <212> PRT
 <213> capsid protein of AAV serotype, clone 223.2

<400> 76
 Lys Ala Tyr Asp Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg
 1 5 10 15

Tyr Asn His Ala Asp Ala Glu Phe Gln Glu Cys Leu Gln Glu Asp Thr
 20 25 30

Ser Phe Gly Gly Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg
 35 40 45

Val Leu Glu Pro Leu Gly Leu Val Glu Thr Pro Ala Lys Thr Ala Pro
 50 55 60

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

Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 85 90 95

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
 100 105 110

Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Val Ala Gly Gly Gly
 115 120 125

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala
 130 135 140

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 145 150 155 160

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 165 170 175

Tyr Lys Gln Ile Ser Ser Gln Ser Ala Gly Ser Thr Asn Asp Asn Val
 180 185 190

Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
 195 200 205

His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
 210 215 220

Trp Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln
 225 230 235 240

Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
 245 250 255

Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro
 260 265 270

Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
 275 280 285

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
 290 295 300

Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
 305 310 315 320

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
 325 330 335

Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp
 340 345 350

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg
 355 360 365

Thr Gln Ser Asn Ala Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln Phe
 370 375 380

Tyr Gln Gly Gly Pro Thr Thr Met Ala Glu Gln Ala Lys Asn Trp Leu
 385 390 395 400

Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp Gln
 405 410 415

Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu
 420 425 430

Asn Gly Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His
 435 440 445

Lys Asp Asp Glu Glu Arg Phe Ser Pro Ser Ser Gly Val Leu Ile Phe
 450 455 460

Gly Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met
 465 470 475 480

Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu Glu
 485 490 495

Tyr Gly Ile Val Ser Ser Asn Leu Gln Ala Ala Ser Thr Ala Ala Gln
 500 505 510

Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp Gln
 515 520 525

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 530 535 540

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 545 550 555 560

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 565 570 575

Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Phe Ala Ser Phe Ile Thr
 580 585 590

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 595 600 605

Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn
 610 615 620

Phe Asp Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly Val
 625 630 635 640

Tyr Ser Glu Pro

<210> 77
 <211> 644
 <212> PRT
 <213> capsid protein of AAV serotype, clone 223.7
 <400> 77

Lys Ala Tyr Asp Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg
 1 5 10 15

Tyr Asn His Ala Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr
 20 25 30

Ser Phe Gly Gly Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg
 35 40 45
 Val Leu Glu Pro Leu Gly Leu Val Glu Thr Pro Ala Lys Thr Ala Pro
 50 55 60
 Gly Lys Lys Arg Pro Val Asp Ser Pro Asp Ser Thr Ser Gly Ile Gly
 65 70 75 80
 Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 85 90 95
 Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
 100 105 110
 Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly
 115 120 125
 Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala
 130 135 140
 Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 145 150 155 160
 Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 165 170 175
 Tyr Lys Gln Ile Ser Ser Gln Ser Ala Gly Ser Thr Asn Asp Asn Val
 180 185 190
 Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
 195 200 205
 His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
 210 215 220
 Trp Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln
 225 230 235 240
 Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
 245 250 255
 Leu Thr Ser Thr Val Gln Val Phe Ser Asp Pro Glu Tyr Gln Leu Pro
 260 265 270
 Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
 275 280 285

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
 290 295 300

Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
 305 310 315 320

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
 325 330 335

Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp
 340 345 350

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg
 355 360 365

Thr Gln Ser Asn Ala Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln Phe
 370 375 380

Tyr Gln Gly Gly Pro Thr Thr Met Ala Glu Gln Ala Lys Asn Trp Leu
 385 390 395 400

Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp Gln
 405 410 415

Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu
 420 425 430

Asn Gly Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His
 435 440 445

Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe
 450 455 460

Gly Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met
 465 470 475 480

Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu Glu
 485 490 495

Tyr Gly Ile Val Ser Ser Asn Leu Gln Ala Ala Ser Thr Ala Ala Gln
 500 505 510

Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp Gln
 515 520 525

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 530 535 540

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
545 550 555 560

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
565 570 575

Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Ile Ala Ser Phe Ile Thr
580 585 590

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
595 600 605

Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn
610 615 620

Phe Asp Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly Val
625 630 635 640

Tyr Ser Glu Pro

<210> 78

<211> 644

<212> PRT

<213> capsid protein of AAV serotype, clone 223.6

<400> 78

Lys Ala Tyr Asp Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg
1 5 10 15

Tyr Asn His Ala Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr
20 25 30

Ser Phe Gly Gly Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg
35 40 45

Val Leu Glu Pro Leu Gly Leu Val Glu Thr Pro Ala Lys Thr Ala Pro
50 55 60

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

Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
85 90 95

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro
100 105 110

Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly
115 120 125

Ala Pro Met Ala Asp Asn Ser Glu Gly Ala Asp Gly Val Gly Asn Ala
 130 135 140

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 145 150 155 160

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 165 170 175

Tyr Lys Gln Ile Ser Ser Gln Ser Ala Gly Ser Thr Asn Asp Asn Val
 180 185 190

Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe
 195 200 205

His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn
 210 215 220

Trp Gly Phe Arg Pro Lys Lys Leu Asn Phe Lys Leu Phe Asn Ile Gln
 225 230 235 240

Val Lys Glu Val Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn
 245 250 255

Leu Thr Ser Thr Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro
 260 265 270

Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala
 275 280 285

Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly
 290 295 300

Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro
 305 310 315 320

Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Thr Phe Ser Tyr Thr Phe
 325 330 335

Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp
 340 345 350

Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg
 355 360 365

Thr Gln Ser Asn Ala Gly Gly Thr Ala Gly Asn Arg Glu Leu Gln Phe
 370 375 380

Tyr Gln Gly Gly Pro Thr Thr Met Ala Glu Gln Ala Lys Asn Trp Leu
385 390 395 400

Pro Gly Pro Cys Phe Arg Gln Gln Arg Val Ser Lys Thr Leu Asp Gln
405 410 415

Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu
420 425 430

Asn Gly Arg Asn Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His
435 440 445

Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe
450 455 460

Gly Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met
465 470 475 480

Thr Asn Glu Glu Glu Ile Arg Pro Thr Asn Pro Val Ala Thr Glu Glu
485 490 495

Tyr Gly Ile Val Ser Ser Asn Leu Gln Ala Ala Ser Thr Ala Ala Gln
500 505 510

Thr Gln Val Val Asn Asn Gln Gly Ala Leu Pro Gly Met Val Trp Gln
515 520 525

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
530 535 540

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
545 550 555 560

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
565 570 575

Asn Pro Pro Glu Val Phe Thr Pro Ala Lys Leu Ala Ser Phe Ile Thr
580 585 590

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
595 600 605

Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr Ser Asn
610 615 620

Phe Asp Lys Gln Thr Gly Val Asp Phe Ala Val Asp Ser Gln Gly Val
625 630 635 640

Tyr Ser Glu Pro

<210> 79
<211> 738
<212> PRT
<213> capsid protein of AAV serotype, clone 44.1

<400> 79

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480
 Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495
 Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510
 Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525
 His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
 530 535 540
 Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
 545 550 555 560
 Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575
 Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
 580 585 590
 Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605
 Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620
 Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640
 Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
 645 650 655
 Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
 660 665 670
 Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685
 Leu Gln Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr
 690 695 700
 Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Asp
 705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
725 730 735

Asn Leu

<210> 80
<211> 738
<212> PRT
<213> capsid protein of AAV serotype, clone 44.5
<400> 80

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Pro Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
 530 535 540

Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
 545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575

Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
 580 585 590

Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
 645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
 660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Asp
 705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
725 730 735

Asn Leu

<210> 81
<211> 738
<212> PRT
<213> capsid protein of AAV serotype, clone 44.2

<400> 81
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
465 470 475 480
Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
485 490 495
Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
500 505 510
Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
515 520 525
His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
530 535 540
Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
545 550 555 560
Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
565 570 575
Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
580 585 590
Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
595 600 605
Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
610 615 620
Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
625 630 635 640
Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
645 650 655
Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
660 665 670
Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
675 680 685
Leu Gln Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr
690 695 700
Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Asp
705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
725 730 735

Asn Leu

<210> 82
<211> 738
<212> PRT
<213> capsid protein of AAV serotype, clone 29.3VP1
<400> 82

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Ala Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Thr Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala Arg Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
530 535 540

Phe Gly Lys Gln Gly Ala Gly Lys Gly Asn Val Asp Tyr Ser Ser Val
545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
565 570 575

Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
580 585 590

Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Asp
705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
725 730 735

Asn Leu

<210> 83
<211> 738
<212> PRT
<213> capsid protein of AAV serotype, clone 29.5VP1
<400> 83

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Ala Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
 195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Gly Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Ser Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
485 490 495

Gln Asn Asp Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
530 535 540

Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
565 570 575

Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
580 585 590

Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Asp
 705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
 725 730 735

Asn Leu

<210> 84
 <211> 738
 <212> PRT
 <213> capsid protein of AAV serotype, clone 42.15
 <400> 84

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
 145 150 155 160

Gly Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
 165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
 180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
 195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Arg Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
 530 535 540

Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
 545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575

Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
 580 585 590

Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
 645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
 660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu
705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
725 730 735

Asn Leu

<210> 85
<211> 738
<212> PRT
<213> capsid protein of AAV serotype, clone 42.8

<400> 85

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
 180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
 195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
 530 535 540

Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
 545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575

Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
 580 585 590

Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
 645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
 660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu
705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
725 730 735

Asn Leu

<210> 86
<211> 733
<212> PRT
<213> amino acid of AAV serotype, clone 42.13

<400> 86
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro Ala Gly Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser Ser Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn Thr Tyr Phe Gly
 260 265 270

Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His
 275 280 285

Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe
 290 295 300

Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln Val Lys Glu
 305 310 315 320

Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala Asn Asn Leu Thr Ser
 325 330 335

Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu
 340 345 350

Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe
 355 360 365

Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ala
 370 375 380

Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met
 385 390 395 400

Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Gln Phe Glu Asp Val
 405 410 415

Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met
 420 425 430

Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Arg Thr Gln Ser
 435 440 445

Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu Phe Ser Gln Ala Gly
 450 455 460

Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp Leu Pro Gly Pro Cys
 465 470 475 480

Tyr Arg Gln Gln Arg Val Ser Thr Thr Val Ser Gln Asn Asn Asn Ser
 485 490 495

Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asp
 500 505 510

Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His Lys Gly Asp Glu
 515 520 525

Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met Phe Gly Lys Gln Gly
 530 535 540

Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val Met Leu Thr Ser Glu
 545 550 555 560

Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr Gly Val
 565 570 575

Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala Pro Ile Val Gly Ala
 580 585 590

Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp
 595 600 605

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

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

Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asp Pro Pro
 645 650 655

Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe Ile Thr Gln Tyr Ser
 660 665 670

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

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

Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Thr Tyr Ser Glu
705 710 715 720

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

<210> 87
<211> 733
<212> PRT
<213> capsid protein of AAV serotype, clone 42.3A

<400> 87
Met Ala Ala Asp Gly His Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro Ala Gly Pro Ser
180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser Ser Ser Gly Asn Trp
210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
245 250 255

Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn Thr Tyr Phe Gly
260 265 270

Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His
275 280 285

Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Ser Trp Gly Phe
290 295 300

Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln Val Lys Glu
305 310 315 320

Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala Asn Asn Leu Thr Ser
325 330 335

Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu
340 345 350

Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe
355 360 365

Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ala
370 375 380

Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met
385 390 395 400

Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Gln Phe Glu Asp Val
405 410 415

Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met
420 425 430

Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Arg Thr Gln Ser
435 440 445

Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu Phe Ser Gln Ala Gly
 450 455 460

Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp Leu Pro Gly Pro Cys
 465 470 475 480

Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser Gln Asn Asn Ser
 485 490 495

Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asp
 500 505 510

Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His Lys Asp Asp Glu
 515 520 525

Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met Phe Gly Lys Gln Gly
 530 535 540

Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val Met Leu Thr Ser Glu
 545 550 555 560

Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr Gly Val
 565 570 575

Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala Pro Ile Val Gly Ala
 580 585 590

Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp
 595 600 605

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

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

Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asp Pro Pro
 645 650 655

Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe Ile Thr Gln Tyr Ser
 660 665 670

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

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

Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Thr Tyr Ser Glu
705 710 715 720

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

<210> 88

<211> 731

<212> PRT

<213> capsid protein of AAV serotype, clone 42.4

<400> 88

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro Ala Gly Pro Ser
180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
275 280 285

Ser Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
290 295 300

Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
305 310 315 320

Gln Asn Glu Gly Thr Lys Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
325 330 335

Gln Val Phe Thr Asp Ser Glu Tyr Arg Leu Pro Tyr Val Leu Gly Ser
340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ala Val Gly
370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
385 390 395 400

Thr Gly Asn Asn Phe Glu Phe Ser Tyr Gln Phe Glu Asp Val Pro Phe
405 410 415

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Arg Thr Gln Ser Thr Gly
435 440 445

Gly Thr Ala Gly Thr Gln Gln Leu Leu Phe Ser Gln Ala Gly Pro Asn
 450 455 460

Asn Met Ser Ala Gln Ala Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg
 465 470 475 480

Gln Gln Arg Val Ser Thr Thr Leu Ser Gln Asn Asn Asn Ser Asn Phe
 485 490 495

Ala Trp Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asp Ser Leu
 500 505 510

Val Asn Pro Gly Val Ala Met Ala Thr His Lys Asp Asp Glu Glu Arg
 515 520 525

Phe Phe Pro Ser Ser Gly Val Leu Met Phe Gly Lys Gln Gly Ala Gly
 530 535 540

Lys Asp Asn Val Asp Tyr Ser Ser Val Met Leu Thr Ser Glu Glu Glu
 545 550 555 560

Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr Gly Val Val Ala
 565 570 575

Asp Asn Leu Gln Gln Gln Asn Ala Ala Pro Ile Val Gly Ala Val Asn
 580 585 590

Ser Gln Gly Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr
 595 600 605

Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe
 610 615 620

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

Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asp Pro Pro Thr Thr
 645 650 655

Phe Ser Gln Ala Lys Pro Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly
 660 665 670

Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys Glu Asn Ser Lys
 675 680 685

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

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

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

<210> 89
 <211> 731
 <212> PRT
 <213> capsid protein of AAV serotype, clone 42.5A

<400> 89
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
 260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Arg Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
 305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
 325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
 340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
 355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
 370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
 385 390 395 400

Thr Gly Asn Asn Phe Glu Phe Ser Tyr Gln Phe Glu Asp Val Pro Phe
 405 410 415

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
 420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Arg Thr Gln Ser Thr Gly
 435 440 445

Gly Thr Ala Gly Thr Gln Gln Leu Leu Phe Ser Gln Ala Gly Pro Asn
 450 455 460

Asn Met Ser Ala Gln Ala Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg
 465 470 475 480

Gln Gln Arg Val Ser Thr Thr Leu Ser Gln Asn Asn Asn Ser Asn Phe
 485 490 495

Ala Trp Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asp Ser Leu
 500 505 510

Val Asn Pro Gly Val Ala Met Ala Thr His Lys Asp Asp Glu Glu Arg
 515 520 525

Phe Phe Pro Ser Ser Gly Val Leu Met Phe Gly Lys Gln Gly Ala Gly
 530 535 540

Lys Asp Asn Val Asp Tyr Ser Ser Val Met Leu Thr Ser Glu Glu Glu
 545 550 555 560

Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr Gly Val Val Ala
 565 570 575

Asp Asn Leu Gln Gln Gln Asn Ala Ala Pro Ile Val Gly Ala Val Asn
 580 585 590

Ser Gln Gly Ala Leu Pro Gly Met Ala Trp Gln Asn Arg Asp Val Tyr
 595 600 605

Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe
 610 615 620

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

Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asp Pro Pro Thr Thr
 645 650 655

Phe Ser Gln Ala Lys Leu Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly
 660 665 670

Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys Glu Asn Ser Lys
 675 680 685

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

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

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

<210> 90
<211> 733
<212> PRT
<213> capsid protein of AAV serotype, clone 42.1B

<400> 90
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Arg Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
145 150 155 160

Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr Gly Asp Ser Glu
165 170 175

Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro Ala Gly Pro Ser
180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser Ser Ser Gly Asn Trp
210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn Thr Tyr Phe Gly
 260 265 270

Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His
 275 280 285

Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe
 290 295 300

Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile Gln Val Lys Glu
 305 310 315 320

Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala Asn Asn Leu Thr Ser
 325 330 335

Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu
 340 345 350

Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe
 355 360 365

Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ala
 370 375 380

Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met
 385 390 395 400

Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Gln Phe Glu Asp Val
 405 410 415

Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met
 420 425 430

Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ser Arg Thr Gln Ser
 435 440 445

Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu Phe Ser Gln Ala Gly
 450 455 460

Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp Leu Pro Gly Pro Cys
 465 470 475 480

Tyr Arg Gln Gln Arg Val Ser Thr Thr Val Ser Gln Asn Asn Asn Ser
485 490 495

Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asp
500 505 510

Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr His Lys Gly Asp Glu
515 520 525

Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met Phe Gly Lys Gln Gly
530 535 540

Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val Met Leu Thr Ser Glu
545 550 555 560

Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Gln Tyr Gly Val
565 570 575

Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala Pro Ile Val Gly Ala
580 585 590

Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp
595 600 605

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

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

Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asp Pro Pro
645 650 655

Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe Ile Thr Gln Tyr Ser
660 665 670

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

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

Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Thr Tyr Ser Glu
705 710 715 720

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

<210> 91
 <211> 738
 <212> PRT
 <213> capsid protein of AAV serotype, clone 42.5B

<400> 91
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15
 Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30
 Lys Ala Asn Gln Gln Lys Gln Asp Asp Gly Arg Gly Leu Val Leu Pro
 35 40 45
 Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60
 Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80
 Lys Gln Leu Glu Gln Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala
 85 90 95
 Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr Ser Phe Gly Gly
 100 105 110
 Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro
 115 120 125
 Leu Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Gly Lys Lys Arg
 130 135 140
 Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
 145 150 155 160
 Gly Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
 165 170 175
 Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
 180 185 190
 Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
 195 200 205
 Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220
 Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240
 Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Ala Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Asn Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525
 His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
 530 535 540
 Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
 545 550 555 560
 Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575
 Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Gln Asn Ala Ala
 580 585 590
 Pro Ile Val Gly Ala Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605
 Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620
 Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640
 Gly Leu Lys His Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
 645 650 655
 Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
 660 665 670
 Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685
 Leu Gln Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr
 690 695 700
 Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu
 705 710 715 720
 Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
 725 730 735
 Asn Leu

<210> 92
 <211> 738
 <212> PRT
 <213> capsid protein of AAV serotype, clone 43.1

<400> 92

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly His Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Pro Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Thr Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Gln Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Ala Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
 530 535 540
 Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
 545 550 555 560
 Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575
 Glu Gln Tyr Gly Val Val Ala Asp Asn Leu Gln Gln Thr Asn Gly Ala
 580 585 590
 Pro Ile Val Gly Thr Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605
 Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620
 Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640
 Gly Leu Lys His Pro Pro Pro Gln Ile Leu Val Lys Asn Thr Pro Val
 645 650 655
 Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
 660 665 670
 Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685
 Leu Gln Lys Glu Asn Ser Lys Arg Trp Asn Pro Glu Ile Gln Tyr Thr
 690 695 700
 Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu
 705 710 715 720
 Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
 725 730 735
 Asn Leu

<210> 93
 <211> 738
 <212> PRT
 <213> capsid protein of AAV serotype, clone 43.12

<400> 93
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

 Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30
 Lys Ala Asn Gln Gln Lys Gln Asp Asp Gly Arg Gly Leu Val Leu Pro
 35 40 45

 Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

 Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

 Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
 145 150 155 160

 Gly Lys Lys Gly His Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln
 165 170 175

 Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
 180 185 190

 Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
 195 200 205

 Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

 Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

 Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Thr Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Gln Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Ala Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
 515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
 530 535 540

Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
 545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575

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

Pro Ile Val Gly Thr Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Val Lys Asn Thr Pro Val
 645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
 660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu
 705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
 725 730 735

Asn Leu

<210> 94
 <211> 738
 <212> PRT
 <213> capsid protein of AAV serotype, clone 43.5

<400> 94

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly His Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Thr Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ser Arg Thr Gln Ser Thr Gly Gly Thr Gln Gly Thr Gln Gln Leu Leu
 450 455 460

Phe Ser Gln Ala Gly Pro Ala Asn Met Ser Ala Gln Ala Lys Asn Trp
 465 470 475 480

Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Leu Ser
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asp Ser Leu Val Asn Pro Gly Val Ala Met Ala Thr
515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Ser Gly Val Leu Met
530 535 540

Phe Gly Lys Gln Gly Ala Gly Lys Asp Asn Val Asp Tyr Ser Ser Val
545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
565 570 575

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

Pro Ile Val Gly Thr Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Val Lys Asn Thr Pro Val
645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Ser Gln Ala Lys Leu Ala Ser Phe
660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu
705 710 715 720

Gly Thr Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
725 730 735

Asn Leu

<210> 95

<211> 738

<212> PRT

<213> capsid protein of AAV serotype, clone AAV8

<400> 95

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Ala Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
145 150 155 160

Gly Lys Lys Gly Gln Gln Pro Ala Arg Lys Arg Leu Asn Phe Gly Gln
165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro
180 185 190

Pro Ala Ala Pro Ser Gly Val Gly Pro Asn Thr Met Ala Ala Gly Gly
195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255
 Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ala Thr Asn Asp
 260 265 270
 Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285
 Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300
 Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Ser Phe Lys Leu Phe Asn
 305 310 315 320
 Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335
 Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350
 Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365
 Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380
 Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400
 Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Thr Tyr
 405 410 415
 Thr Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430
 Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445
 Ser Arg Thr Gln Thr Thr Gly Gly Thr Ala Asn Thr Gln Thr Leu Gly
 450 455 460
 Phe Ser Gln Gly Gly Pro Asn Thr Met Ala Asn Gln Ala Lys Asn Trp
 465 470 475 480
 Leu Pro Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Thr Gly
 485 490 495

Gln Asn Asn Asn Ser Asn Phe Ala Trp Thr Ala Gly Thr Lys Tyr His
 500 505 510

Leu Asn Gly Arg Asn Ser Leu Ala Asn Pro Gly Ile Ala Met Ala Thr
 515 520 525

His Lys Asp Asp Glu Glu Arg Phe Phe Pro Ser Asn Gly Ile Leu Ile
 530 535 540

Phe Gly Lys Gln Asn Ala Ala Arg Asp Asn Ala Asp Tyr Ser Asp Val
 545 550 555 560

Met Leu Thr Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr
 565 570 575

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

Pro Gln Ile Gly Thr Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val
 595 600 605

Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile
 610 615 620

Pro His Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe
 625 630 635 640

Gly Leu Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val
 645 650 655

Pro Ala Asp Pro Pro Thr Thr Phe Asn Gln Ser Lys Leu Asn Ser Phe
 660 665 670

Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu
 675 680 685

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

Ser Asn Tyr Tyr Lys Ser Thr Ser Val Asp Phe Ala Val Asn Thr Glu
 705 710 715 720

Gly Val Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg
 725 730 735

Asn Leu

<210> 96
 <211> 736
 <212> PRT
 <213> capsid protein of AAV serotype, clone 43.21

<400> 96

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly
 145 150 155 160

Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
 180 185 190

Ala Ala Pro Ser Gly Leu Gly Pro Asn Thr Met Ala Ser Gly Gly Gly
 195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255

Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn
 260 265 270

Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
 275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
 290 295 300

Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile
 305 310 315 320

Gln Val Lys Glu Val Thr Thr Asn Glu Gly Thr Lys Thr Ile Ala Asn
 325 330 335

Asn Leu Thr Ser Thr Val Arg Val Phe Thr Asp Ser Glu Tyr Gln Leu
 340 345 350

Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro
 355 360 365

Ala Asp Val Phe Met Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn
 370 375 380

Gly Ser Gln Ala Leu Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
 385 390 395 400

Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Thr
 405 410 415

Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
 420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Val
 435 440 445

Arg Thr Gln Thr Thr Gly Thr Gly Gly Thr Gln Thr Leu Ala Phe Ser
 450 455 460

Gln Ala Gly Pro Ser Ser Met Ala Asn Gln Ala Arg Asn Trp Val Pro
 465 470 475 480

Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Thr Asn Gln Ser
 485 490 495

Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Ala Lys Phe Lys Leu Asn
 500 505 510

Gly Arg Asp Ser Leu Met Asn Pro Gly Val Ala Met Ala Ser His Lys
 515 520 525

Asp Asp Asp Asp Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe Gly
 530 535 540

Lys Gln Gly Ala Gly Asn Asp Gly Val Asp Tyr Ser Gln Val Leu Ile
 545 550 555 560

Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Glu
 565 570 575

Tyr Gly Ala Val Ala Ile Asn Asn Gln Ala Ala Asn Thr Gln Ala Gln
 580 585 590

Thr Gly Leu Val His Asn Gln Gly Val Ile Pro Gly Met Val Trp Gln
 595 600 605

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 610 615 620

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 625 630 635 640

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 645 650 655

Asp Pro Pro Leu Thr Phe Asn Gln Ala Lys Leu Asn Ser Phe Ile Thr
 660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 675 680 685

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

Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Val
 705 710 715 720

Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
 725 730 735

<210> 97
 <211> 736
 <212> PRT
 <213> capsid protein of AAV serotype, clone 43.25

 <400> 97
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

 Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

 Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

 Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

 Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly
 145 150 155 160

 Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175

 Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
 180 185 190

 Ala Ala Pro Ser Gly Leu Gly Pro Asn Thr Met Ala Ser Gly Gly Gly
 195 200 205

 Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220

 Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255

Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn
 260 265 270

Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
 275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
 290 295 300

Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile
 305 310 315 320

Gln Val Lys Glu Val Thr Thr Asn Glu Gly Thr Lys Thr Ile Ala Asn
 325 330 335

Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu
 340 345 350

Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro
 355 360 365

Ala Asp Val Phe Met Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn
 370 375 380

Gly Ser Gln Ala Leu Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
 385 390 395 400

Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Thr
 405 410 415

Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
 420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Val
 435 440 445

Arg Thr Gln Thr Thr Gly Thr Gly Gly Thr Gln Thr Leu Ala Phe Ser
 450 455 460

Gln Ala Gly Pro Ser Ser Met Ala Asn Gln Ala Arg Asn Trp Val Pro
 465 470 475 480

Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Thr Asn Gln Asn
 485 490 495

Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Ala Lys Phe Lys Leu Asn
 500 505 510

Gly Arg Asp Ser Leu Met Asn Pro Gly Val Ala Met Ala Ser His Lys
 515 520 525

Asp Asp Asp Asp Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe Gly
 530 535 540

Lys Gln Gly Ala Gly Asn Asp Gly Val Asp Tyr Ser Gln Val Leu Ile
 545 550 555 560

Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Glu
 565 570 575

Tyr Gly Ala Val Ala Ile Asn Asn Gln Ala Ala Asn Thr Gln Ala Gln
 580 585 590

Thr Gly Leu Val His Asn Gln Gly Val Ile Pro Gly Met Val Trp Gln
 595 600 605

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 610 615 620

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 625 630 635 640

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 645 650 655

Asp Pro Pro Leu Thr Phe Asn Gln Ala Lys Leu Asn Ser Phe Ile Thr
 660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 675 680 685

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

Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Val
 705 710 715 720

Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
 725 730 735

<210> 98
 <211> 736
 <212> PRT
 <213> capsid protein of AAV serotype, clone 43.23

<400> 98
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15
 Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30
 Lys Ala Asn Gln Gln Lys Gln Asp Asp Gly Arg Gly Leu Val Leu Pro
 35 40 45
 Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60
 Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80
 Gln Gln Leu Lys Ala Gly Asp Asn Pro Tyr Leu Arg Tyr Asn His Ala
 85 90 95
 Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr Ser Phe Gly Gly
 100 105 110
 Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro
 115 120 125
 Leu Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Pro Gly Lys Lys Arg
 130 135 140
 Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly
 145 150 155 160
 Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175
 Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
 180 185 190
 Ala Ala Pro Ser Gly Leu Gly Pro Asn Thr Met Ala Ser Gly Gly Gly
 195 200 205
 Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220
 Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255

Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn
 260 265 270

Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
 275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
 290 295 300

Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile
 305 310 315 320

Gln Val Lys Glu Val Thr Thr Asn Glu Gly Thr Lys Thr Ile Ala Asn
 325 330 335

Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp Leu Glu Tyr Gln Leu
 340 345 350

Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro
 355 360 365

Ala Asp Val Phe Met Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn
 370 375 380

Gly Ser Gln Ala Leu Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
 385 390 395 400

Pro Ser Gln Met Pro Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Thr
 405 410 415

Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
 420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Val
 435 440 445

Arg Thr Gln Thr Thr Gly Thr Gly Gly Thr Gln Thr Leu Ala Phe Ser
 450 455 460

Gln Ala Gly Pro Ser Ser Met Ala Asn Gln Ala Arg Asn Trp Val Pro
 465 470 475 480

Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Thr Asn Gln Asn
 485 490 495

Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Ala Lys Phe Lys Leu Asn
 500 505 510

Gly Arg Asp Ser Leu Met Asn Pro Gly Val Ala Met Ala Ser His Lys
 515 520 525

Asp Asp Asp Asp Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe Gly
 530 535 540

Lys Gln Gly Ala Gly Asn Asp Gly Val Asp Tyr Ser Gln Val Leu Ile
 545 550 555 560

Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Glu
 565 570 575

Tyr Gly Ala Val Ala Ile Asn Asn Gln Ala Ala Asn Thr Gln Ala Gln
 580 585 590

Thr Gly Leu Val His Asn Gln Gly Val Ile Pro Gly Met Val Trp Gln
 595 600 605

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 610 615 620

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 625 630 635 640

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 645 650 655

Asp Pro Pro Leu Thr Phe Asn Gln Ala Lys Leu Asn Ser Phe Ile Thr
 660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 675 680 685

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

Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Val
 705 710 715 720

Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
 725 730 735

<210> 99
 <211> 736
 <212> PRT
 <213> capsid protein of AAV serotype, clone 43.20

 <400> 99
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

 Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

 Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

 Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

 Leu Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly
 145 150 155 160

 Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
 165 170 175

 Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
 180 185 190

 Ala Ala Pro Ser Gly Leu Gly Pro Asn Thr Met Ala Ser Gly Gly Gly
 195 200 205

 Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
 210 215 220

 Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
 225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
 245 250 255
 Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn
 260 265 270
 Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
 275 280 285
 Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
 290 295 300
 Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile
 305 310 315 320
 Gln Val Lys Glu Val Thr Thr Asn Glu Gly Thr Lys Thr Ile Ala Asn
 325 330 335
 Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu
 340 345 350
 Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro
 355 360 365
 Ala Asp Val Phe Thr Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn
 370 375 380
 Gly Ser Gln Ala Leu Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
 385 390 395 400
 Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Thr
 405 410 415
 Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
 420 425 430
 Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Val
 435 440 445
 Arg Thr Gln Thr Thr Gly Thr Gly Gly Thr Gln Thr Leu Ala Phe Ser
 450 455 460
 Gln Ala Gly Pro Ser Ser Met Ala Asn Gln Ala Arg Asn Trp Val Pro
 465 470 475 480
 Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Thr Asn Gln Asn
 485 490 495

Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Ala Lys Phe Lys Leu Asn
 500 505 510

Gly Arg Asp Ser Leu Met Asn Pro Gly Val Ala Met Ala Ser His Lys
 515 520 525

Asp Asp Asp Asp Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe Gly
 530 535 540

Lys Gln Gly Ala Gly Asn Asp Gly Val Asp Tyr Ser Gln Val Leu Ile
 545 550 555 560

Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Glu
 565 570 575

Tyr Gly Ala Val Ala Ile Asn Asn Gln Ala Ala Asn Thr Gln Ala Gln
 580 585 590

Thr Gly Leu Val His Asn Gln Gly Val Ile Pro Gly Met Val Trp Gln
 595 600 605

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 610 615 620

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 625 630 635 640

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 645 650 655

Asp Pro Pro Leu Thr Phe Asn Gln Ala Lys Leu Asn Ser Phe Ile Thr
 660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 675 680 685

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

Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Val
 705 710 715 720

Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
 725 730 735

<210> 100
 <211> 736
 <212> PRT
 <213> capsid protein of AAV serotype, clone AAV9

400> 100
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Gln Ser Pro Gln Glu Pro Asp Ser Ser Ser Gly Ile Gly
145 150 155 160

Lys Ser Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln Thr
165 170 175

Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro
180 185 190

Glu Ala Pro Ser Gly Leu Gly Pro Asn Thr Met Ala Ser Gly Gly Gly
195 200 205

Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ser
210 215 220

Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile
225 230 235 240

Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu
245 250 255

Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp Asn
 260 265 270

Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg
 275 280 285

Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn
 290 295 300

Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn Ile
 305 310 315 320

Gln Val Lys Glu Val Thr Thr Asn Glu Gly Thr Lys Thr Ile Ala Asn
 325 330 335

Asn Leu Thr Ser Thr Val Gln Val Phe Thr Asp Ser Glu Tyr Gln Leu
 340 345 350

Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro
 355 360 365

Ala Asp Val Phe Met Val Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn
 370 375 380

Gly Ser Gln Ala Leu Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe
 385 390 395 400

Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Gln Phe Ser Tyr Thr
 405 410 415

Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu
 420 425 430

Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Val
 435 440 445

Arg Thr Gln Thr Thr Gly Thr Gly Gly Thr Gln Thr Leu Ala Phe Ser
 450 455 460

Gln Ala Gly Pro Ser Ser Met Ala Asn Gln Ala Arg Asn Trp Val Pro
 465 470 475 480

Gly Pro Cys Tyr Arg Gln Gln Arg Val Ser Thr Thr Thr Asn Gln Asn
 485 490 495

Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Ala Lys Phe Lys Leu Asn
 500 505 510

Gly Arg Asp Ser Leu Met Asn Pro Gly Val Ala Met Ala Ser His Lys
 515 520 525

Asp Asp Glu Asp Arg Phe Phe Pro Ser Ser Gly Val Leu Ile Phe Gly
 530 535 540

Lys Gln Gly Ala Gly Asn Asp Gly Val Asp Tyr Ser Gln Val Leu Ile
 545 550 555 560

Thr Asp Glu Glu Glu Ile Lys Ala Thr Asn Pro Val Ala Thr Glu Glu
 565 570 575

Tyr Gly Ala Val Ala Ile Asn Asn Gln Ala Ala Asn Thr Gln Ala Gln
 580 585 590

Thr Gly Leu Val His Asn Gln Gly Val Ile Pro Gly Met Val Trp Gln
 595 600 605

Asn Arg Asp Val Tyr Leu Gln Gly Pro Ile Trp Ala Lys Ile Pro His
 610 615 620

Thr Asp Gly Asn Phe His Pro Ser Pro Leu Met Gly Gly Phe Gly Leu
 625 630 635 640

Lys His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala
 645 650 655

Asp Pro Pro Leu Thr Phe Asn Gln Ala Lys Leu Asn Ser Phe Ile Thr
 660 665 670

Gln Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln
 675 680 685

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

Tyr Tyr Lys Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Val
 705 710 715 720

Tyr Ser Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
 725 730 735

<210> 101
 <211> 728
 <212> PRT
 <213> capsid protein of AAV serotype, clone 24.1

<400> 101
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Arg Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Ser Tyr Ser
 260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
 305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
 325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
 340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
 355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
 370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
 385 390 395 400

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

His Ser Ser Tyr Val His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
 420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
 435 440 445

Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Met
 450 455 460

Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln
 465 470 475 480

Arg Leu Ser Lys Asn Ile Asp Ser Asn Asn Asn Ser Asn Phe Ala Trp
 485 490 495

Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
 500 505 510

Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe Phe
 515 520 525

Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn Lys
 530 535 540
 Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
 545 550 555 560
 Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn Leu
 565 570 575
 Gln Ser Ser Thr Ala Gly Pro Gln Thr Gln Thr Val Asn Ser Gln Gly
 580 585 590
 Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Cys Leu Gln Gly
 595 600 605
 Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
 610 615 620
 Pro Leu Met Gly Gly Phe Gly Leu Lys His Pro Pro Pro Gln Ile Leu
 625 630 635 640
 Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr Pro
 645 650 655
 Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
 660 665 670
 Val Glu Ile Glu Trp Glu Leu Gln Lys Glu Asn Ser Lys Arg Trp Asn
 675 680 685
 Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
 690 695 700
 Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
 705 710 715 720
 Thr Arg Tyr Leu Thr Arg Asn Leu
 725

<210> 102
 <211> 728
 <212> PRT
 <213> capsid protein of AAV serotype, clone 42.2REAL

<400> 102
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
 260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
 305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
 325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
 340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
 355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
 370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
 385 390 395 400

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

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
 420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
 435 440 445

Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Met
 450 455 460

Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln
 465 470 475 480

Arg Leu Ser Lys Asn Ile Asp Ser Asn Asn Asn Ser Asn Phe Ala Trp
 485 490 495

Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
 500 505 510

Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe Phe
 515 520 525

Pro Ile Asn Gly Val Leu Val Phe Gly Glu Thr Gly Ala Ala Asn Lys
530 535 540

Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
545 550 555 560

Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn Leu
565 570 575

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

Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly
595 600 605

Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
610 615 620

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

Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr Pro
645 650 655

Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
660 665 670

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

Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
690 695 700

Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
705 710 715 720

Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 103

<211> 728

<212> PRT

<213> capsid protein of AAV serotype, clone 7.2VP1

<400> 103

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Gly Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Arg Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Asn Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
 260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
 305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
 325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
 340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
 355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
 370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
 385 390 395 400

Thr Gly Asp Asn Phe Glu Phe Ser Tyr Thr Phe Glu Glu Val Pro Phe
 405 410 415

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
 420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
 435 440 445

Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Met
 450 455 460

Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln
 465 470 475 480

Arg Leu Ser Lys Asn Ile Asp Ser Asn Asn Asn Ser Asn Phe Ala Trp
 485 490 495

Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
 500 505 510

Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe Phe
 515 520 525

Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn Lys
 530 535 540

Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
545 550 555 560

Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn Leu
565 570 575

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

Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly
595 600 605

Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
610 615 620

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

Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr Pro
645 650 655

Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
660 665 670

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

Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
690 695 700

Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
705 710 715 720

Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 104

<211> 728

<212> PRT

<213> capsid protein of AAV serotype, clone 27.3VP1

<400> 104

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

Lys Ala Asn Gln Gln Lys Gln Asp Asp Gly Arg Gly Leu Val Leu Pro
 35 40 45
 Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60
 Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80
 Lys Gln Leu Glu Gln Gly Asp Asn Pro Tyr Leu Lys Tyr Asn His Ala
 85 90 95
 Asp Ala Glu Phe Gln Glu Arg Leu Gln Glu Asp Thr Ser Phe Gly Gly
 100 105 110
 Asn Leu Gly Arg Ala Val Phe Gln Ala Lys Lys Arg Val Leu Glu Pro
 115 120 125
 Leu Gly Leu Val Glu Glu Gly Ala Lys Thr Ala Ser Gly Lys Lys Arg
 130 135 140
 Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160
 Gln Pro Ala Lys Lys Lys Leu Asn Phe Gly Gln Thr Gly Asp Ser Glu
 165 170 175
 Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190
 Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205
 Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220
 His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240
 Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255
 Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
 260 265 270
 Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
 305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
 325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
 340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
 355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
 370 375 380

Arg Ser Ser Phe Cys Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
 385 390 395 400

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

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
 420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
 435 440 445

Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Val
 450 455 460

Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln
 465 470 475 480

Arg Leu Ser Lys Asn Ile Asp Ser Asn Asn Asn Ser Asn Phe Ala Trp
 485 490 495

Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
 500 505 510

Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe Leu
 515 520 525

Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn Lys
 530 535 540

Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
545 550 555 560

Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn Leu
565 570 575

Gln Ser Ser Thr Ala Gly Pro Arg Thr Gln Thr Val Asn Ser Gln Gly
580 585 590

Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly
595 600 605

Pro Ile Trp Ala Glu Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
610 615 620

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

Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr Pro
645 650 655

Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
660 665 670

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

Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
690 695 700

Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
705 710 715 720

Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 105
<211> 728
<212> PRT
<213> capsid protein of AAV serotype, clone 16.3VP1

<400> 105
Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
 260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Met Gly
370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
385 390 395 400

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

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
435 440 445

Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Met
450 455 460

Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln
465 470 475 480

Arg Leu Ser Lys Asn Ile Asp Ser Asn Asn Asn Ser Asn Phe Ala Trp
485 490 495

Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
500 505 510

Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Gly Gln Phe Phe
515 520 525

Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn Lys
530 535 540

Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
545 550 555 560

Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn Leu
565 570 575

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

Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly
595 600 605

Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
610 615 620

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

Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Gly Val Phe Thr Pro
645 650 655

Ala Leu Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
660 665 670

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

Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
690 695 700

Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
705 710 715 720

Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 106

<211> 728

<212> PRT

<213> capsid protein of AAV serotype, clone 42.10

<400> 106

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Arg Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro Ala Gly Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
 260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
 305 310 315 320
 Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
 325 330 335
 Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
 340 345 350
 Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
 355 360 365
 Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
 370 375 380
 Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
 385 390 395 400
 Thr Gly Asn Asn Phe Glu Phe Ser Tyr Thr Phe Glu Glu Val Pro Phe
 405 410 415
 His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
 420 425 430
 Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
 435 440 445
 Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Met
 450 455 460
 Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln
 465 470 475 480
 Arg Leu Ser Lys Asn Ile Asp Ser Asn Asn Asn Ser Asn Phe Ala Trp
 485 490 495
 Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
 500 505 510
 Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe Phe
 515 520 525
 Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn Lys
 530 535 540
 Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
 545 550 555 560

Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn Leu
565 570 575

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

Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly
595 600 605

Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
610 615 620

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

Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr Pro
645 650 655

Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
660 665 670

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

Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
690 695 700

Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
705 710 715 720

Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 107

<211> 728

<212> PRT

<213> capsid protein of AAV serotype, clone 42.3B

<400> 107

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro Ala Gly Pro Ser
 180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
 260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
 275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
 290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
 305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
385 390 395 400

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

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
435 440 445

Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Met
450 455 460

Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln Gln
465 470 475 480

Arg Leu Ser Lys Asn Ile Asp Ser Asn Asn Thr Ser Asn Phe Ala Trp
485 490 495

Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
500 505 510

Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe Phe
515 520 525

Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn Lys
530 535 540

Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
545 550 555 560

Thr Asn Pro Val Ala Thr Glu Gln Tyr Gly Val Val Ser Ser Asn Leu
565 570 575

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

Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly
 595 600 605

Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
 610 615 620

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

Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr Pro
 645 650 655

Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
 660 665 670

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

Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
 690 695 700

Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
 705 710 715 720

Thr Arg Tyr Leu Thr Arg Asn Leu
 725

<210> 108

<211> 728

<212> PRT

<213> capsid protein of AAV serotype, clone 42.11

<400> 108

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Glu Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro Pro Ala Gly Pro Ser
180 185 190

Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
245 250 255

Ser Ser Gln Ser Gly Ala Thr Asn Asp Asn His Phe Phe Gly Tyr Ser
260 265 270

Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe Ser
275 280 285

Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg Pro
290 295 300

Arg Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val Thr
305 310 315 320

Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr Ile
 325 330 335

Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly Ser
 340 345 350

Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met Ile
 355 360 365

Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val Gly
 370 375 380

Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu Arg
 385 390 395 400

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

His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn Pro
 420 425 430

Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr Thr
 435 440 445

Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr Met
 450 455 460

Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Arg Gln
 465 470 475 480

Arg Leu Ser Lys Asp Ile Asp Ser Asn Asn Asn Ser Asn Phe Ala Trp
 485 490 495

Thr Gly Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr Asn
 500 505 510

Pro Gly Val Ala Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe Phe
 515 520 525

Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn Lys
 530 535 540

Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys Thr
 545 550 555 560

Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn Leu
 565 570 575

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

Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln Gly
595 600 605

Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro Ser
610 615 620

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

Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr Pro
645 650 655

Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val Ser
660 665 670

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

Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val Glu
690 695 700

Phe Ala Val Asn Asn Glu Gly Val Tyr Thr Glu Pro Arg Pro Ile Gly
705 710 715 720

Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 109

<211> 729

<212> PRT

<213> capsid protein of AAV serotype, clone F1VE1

<400> 109

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Asp Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Ser Val Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Ser Ser Ser Gly Ala Thr Asn Asp Asn His Tyr Phe Gly Tyr
 260 265 270

Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe
 275 280 285

Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg
 290 295 300

Pro Lys Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val
 305 310 315 320

Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr
 325 330 335

Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly
 340 345 350
 Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met
 355 360 365
 Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val
 370 375 380
 Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu
 385 390 395 400
 Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Ser Phe Glu Asp Val Pro
 405 410 415
 Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn
 420 425 430
 Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr
 435 440 445
 Thr Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr
 450 455 460
 Met Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln
 465 470 475 480
 Gln Gly Leu Ser Lys Asn Leu Asp Phe Asn Asn Asn Ser Asn Phe Ala
 485 490 495
 Trp Thr Ala Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr
 500 505 510
 Asn Pro Gly Ile Pro Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe
 515 520 525
 Phe Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn
 530 535 540
 Lys Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys
 545 550 555 560
 Thr Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn
 565 570 575
 Leu Gln Pro Ser Thr Ala Gly Pro Gln Ser Gln Thr Ile Asn Ser Gln
 580 585 590

Gly Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln
 595 600 605

Gly Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro
 610 615 620

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

Leu Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr
 645 650 655

Pro Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val
 660 665 670

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

Asn Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val
 690 695 700

Glu Phe Ala Val Asn Pro Asp Gly Val Tyr Thr Glu Pro Arg Pro Ile
 705 710 715 720

Gly Thr Arg Tyr Leu Pro Arg Asn Leu
 725

<210> 110
 <211> 729
 <212> PRT
 <213> capsid protein of AAV serotype, clone F5VP1@3

<400> 110
 Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
 1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
 20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
 50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
 65 70 75 80

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

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

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

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

Pro Ile Asp Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Ser Val Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Thr Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Ser Ser Ser Gly Ala Thr Asn Asp Asn His Tyr Phe Gly Tyr
 260 265 270

Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe
 275 280 285

Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg
 290 295 300

Pro Lys Lys Leu Arg Phe Lys Leu Phe Asn Ile Gln Val Lys Glu Val
 305 310 315 320

Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr
 325 330 335

Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly
 340 345 350

Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met
 355 360 365

Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn Asn Gly Ser Gln Ser Val
 370 375 380

Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu
 385 390 395 400

Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Ser Phe Glu Asp Val Pro
 405 410 415

Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn
 420 425 430

Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr
 435 440 445

Thr Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr
 450 455 460

Met Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln
 465 470 475 480

Gln Arg Leu Ser Lys Asn Leu Asp Phe Asn Asn Asn Ser Asn Phe Ala
 485 490 495

Trp Thr Ala Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr
 500 505 510

Asn Pro Gly Ile Pro Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe
 515 520 525

Phe Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn
 530 535 540

Lys Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys
 545 550 555 560

Thr Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn
 565 570 575

Leu Gln Ser Ser Thr Ala Gly Pro Gln Ser Gln Thr Ile Asn Ser Gln
 580 585 590

Gly Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln
 595 600 605

Gly Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro
610 615 620

Ser Pro Leu Met Gly Gly Phe Gly Leu Glu His Pro Pro Pro Gln Ile
625 630 635 640

Leu Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr
645 650 655

Pro Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val
660 665 670

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

Asn Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val
690 695 700

Glu Phe Ala Val Asn Pro Asp Gly Val Tyr Thr Glu Pro Arg Pro Ile
705 710 715 720

Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 111

<211> 729

<212> PRT

<213> capsid protein of AAV serotype, clone F3VP1

<400> 111

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Ala Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Ile Gly Ser Pro Asp Ser Ser Thr Gly Ile Gly Lys Lys Gly Gln
 145 150 155 160

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

Ser Val Pro Asp Pro Gln Pro Leu Gly Glu Pro Pro Ala Ala Pro Ser
 180 185 190

Ser Val Gly Ser Gly Thr Met Ala Ala Gly Gly Gly Ala Pro Met Ala
 195 200 205

Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Asn Ala Ser Gly Asn Trp
 210 215 220

His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val Ile Thr Thr Ser Thr
 225 230 235 240

Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His Leu Tyr Lys Gln Ile
 245 250 255

Ser Ser Ser Ser Ser Gly Ala Thr Asn Asp Asn His Tyr Phe Gly Tyr
 260 265 270

Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn Arg Phe His Cys His Phe
 275 280 285

Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn Asn Asn Trp Gly Phe Arg
 290 295 300

Pro Lys Lys Leu Arg Phe Lys Leu Leu Asn Ile Gln Val Lys Glu Val
 305 310 315 320

Thr Thr Asn Asp Gly Val Thr Thr Ile Ala Asn Asn Leu Thr Ser Thr
 325 330 335

Val Gln Val Phe Ser Asp Ser Glu Tyr Gln Leu Pro Tyr Val Leu Gly
 340 345 350

Ser Ala His Gln Gly Cys Leu Pro Pro Phe Pro Ala Asp Val Phe Met
 355 360 365

Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asp Asn Gly Ser Gln Ser Val
 370 375 380

Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr Phe Pro Ser Gln Met Leu
 385 390 395 400

Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr Ser Phe Glu Asp Val Pro
 405 410 415

Phe His Ser Ser Tyr Ala His Ser Gln Ser Leu Asp Arg Leu Met Asn
 420 425 430

Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu Ala Arg Thr Gln Ser Thr
 435 440 445

Thr Gly Ser Thr Arg Glu Leu Gln Phe His Gln Ala Gly Pro Asn Thr
 450 455 460

Met Ala Glu Gln Ser Lys Asn Trp Leu Pro Gly Pro Cys Tyr Arg Gln
 465 470 475 480

Gln Arg Leu Ser Lys Asn Leu Asp Phe Asn Asn Asn Ser Asn Phe Ala
 485 490 495

Trp Thr Ala Ala Thr Lys Tyr His Leu Asn Gly Arg Asn Ser Leu Thr
 500 505 510

Asn Pro Gly Ile Pro Met Ala Thr Asn Lys Asp Asp Glu Asp Gln Phe
 515 520 525

Phe Pro Ile Asn Gly Val Leu Val Phe Gly Lys Thr Gly Ala Ala Asn
 530 535 540

Lys Thr Thr Leu Glu Asn Val Leu Met Thr Ser Glu Glu Glu Ile Lys
 545 550 555 560

Thr Thr Asn Pro Val Ala Thr Glu Glu Tyr Gly Val Val Ser Ser Asn
 565 570 575

Leu Gln Ser Ser Thr Ala Gly Pro Gln Ser Gln Thr Ile Asn Ser Gln
 580 585 590

Gly Ala Leu Pro Gly Met Val Trp Gln Asn Arg Asp Val Tyr Leu Gln
 595 600 605

Gly Pro Ile Trp Ala Lys Ile Pro His Thr Asp Gly Asn Phe His Pro
610 615 620

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

Leu Ile Lys Asn Thr Pro Val Pro Ala Asn Pro Pro Glu Val Phe Thr
645 650 655

Pro Ala Lys Phe Ala Ser Phe Ile Thr Gln Tyr Ser Thr Gly Gln Val
660 665 670

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

Asn Pro Glu Ile Gln Tyr Thr Ser Asn Tyr Ala Lys Ser Asn Asn Val
690 695 700

Glu Phe Ala Val Asn Pro Asp Gly Val Tyr Thr Glu Pro Arg Pro Ile
705 710 715 720

Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725

<210> 112

<211> 735

<212> PRT

<213> capsid protein of AAV serotype, clone 42.6B

<400> 112

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
 145 150 155 160

Gly Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
 165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
 180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
 195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Arg Lys Leu Arg Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Thr Asp Asp Gly Val Thr Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Ser Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ser Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Thr Phe Glu Glu Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Met Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ala Arg Thr Gln Ser Thr Thr Gly Ser Thr Arg Glu Leu Gln Phe His
 450 455 460

Gln Ala Gly Pro Asn Thr Met Ala Glu Gln Ser Lys Asn Trp Leu Pro
 465 470 475 480

Gly Pro Cys Tyr Arg Gln Gln Arg Leu Ser Lys Asn Ile Asp Ser Asn
 485 490 495

Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu Asn
 500 505 510

Gly Arg Asn Ser Leu Thr Asn Pro Gly Val Ala Met Ala Thr Asn Lys
 515 520 525

Asp Asp Glu Asp Gln Phe Phe Pro Ile Asn Gly Val Leu Val Phe Gly
 530 535 540

Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met Thr
 545 550 555 560

Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Glu Tyr
 565 570 575

Gly Val Val Ser Ser Asn Leu Gln Ser Ser Thr Ala Gly Pro Gln Thr
 580 585 590

Gln Thr Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val Trp Gln Asn
 595 600 605

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

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

His Pro Pro Pro Gln Ile Leu Ile Lys Asn Thr Pro Val Pro Ala Asn
645 650 655

Pro Pro Glu Val Phe Thr Pro Ala Lys Phe Ala Ser Phe Ile Thr Gln
660 665 670

Tyr Ser Thr Gly Gln Val Ser Val Glu Ile Glu Trp Glu Leu Gln Lys
675 680 685

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

Ala Lys Ser Asn Asn Val Glu Phe Ala Val Asn Asn Glu Gly Val Tyr
705 710 715 720

Thr Glu Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
725 730 735

<210> 113

<211> 685

<212> PRT

<213> capsid protein of AAV serotype, clone 42.12

<400> 113

Met Ala Ala Asp Gly Tyr Leu Pro Asp Trp Leu Glu Asp Asn Leu Ser
1 5 10 15

Glu Gly Ile Arg Glu Trp Trp Asp Leu Lys Pro Gly Ala Pro Lys Pro
20 25 30

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

Gly Tyr Lys Tyr Leu Gly Pro Phe Asn Gly Leu Asp Lys Gly Glu Pro
50 55 60

Val Asn Glu Ala Asp Ala Ala Ala Leu Glu His Asp Lys Ala Tyr Asp
65 70 75 80

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

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

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

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

Pro Val Glu Pro Ser Pro Gln Arg Ser Pro Asp Ser Ser Thr Gly Ile
 145 150 155 160

Gly Lys Thr Gly Gln Gln Pro Ala Lys Lys Arg Leu Asn Phe Gly Gln
 165 170 175

Thr Gly Asp Ser Glu Ser Val Pro Asp Pro Gln Pro Ile Gly Glu Pro
 180 185 190

Pro Ala Gly Pro Ser Gly Leu Gly Ser Gly Thr Met Ala Ala Gly Gly
 195 200 205

Gly Ala Pro Met Ala Asp Asn Asn Glu Gly Ala Asp Gly Val Gly Ser
 210 215 220

Ser Ser Gly Asn Trp His Cys Asp Ser Thr Trp Leu Gly Asp Arg Val
 225 230 235 240

Ile Thr Thr Ser Thr Arg Thr Trp Ala Leu Pro Thr Tyr Asn Asn His
 245 250 255

Leu Tyr Lys Gln Ile Ser Asn Gly Thr Ser Gly Gly Ser Thr Asn Asp
 260 265 270

Asn Thr Tyr Phe Gly Tyr Ser Thr Pro Trp Gly Tyr Phe Asp Phe Asn
 275 280 285

Arg Phe His Cys His Phe Ser Pro Arg Asp Trp Gln Arg Leu Ile Asn
 290 295 300

Asn Asn Trp Gly Phe Arg Pro Lys Arg Leu Asn Phe Lys Leu Phe Asn
 305 310 315 320

Ile Gln Val Lys Glu Val Thr Gln Asn Glu Gly Thr Lys Thr Ile Ala
 325 330 335

Asn Asn Leu Thr Ser Thr Ile Gln Val Phe Thr Asp Ser Glu Tyr Gln
 340 345 350

Leu Pro Tyr Val Leu Gly Ser Ala His Gln Gly Cys Leu Pro Pro Phe
 355 360 365

Pro Ala Asp Val Phe Met Ile Pro Gln Tyr Gly Tyr Leu Thr Leu Asn
 370 375 380

Asn Gly Ser Gln Ala Val Gly Arg Ser Ser Phe Tyr Cys Leu Glu Tyr
 385 390 395 400

Phe Pro Ser Gln Met Leu Arg Thr Gly Asn Asn Phe Glu Phe Ser Tyr
 405 410 415

Gln Phe Glu Asp Val Pro Phe His Ser Ser Tyr Ala His Ser Gln Ser
 420 425 430

Leu Asp Arg Leu Thr Asn Pro Leu Ile Asp Gln Tyr Leu Tyr Tyr Leu
 435 440 445

Ala Arg Thr Gln Ser Thr Thr Gly Ser Thr Arg Gly Leu Gln Phe His
 450 455 460

Gln Ala Gly Pro Asn Thr Met Ala Glu Gln Ser Lys Asn Trp Leu Pro
 465 470 475 480

Gly Pro Cys Tyr Arg Gln Gln Arg Leu Ser Lys Asn Ile Asp Ser Asn
 485 490 495

Asn Asn Ser Asn Phe Ala Trp Thr Gly Ala Thr Lys Tyr His Leu Asn
 500 505 510

Gly Arg Asn Ser Leu Thr Asn Pro Gly Val Ala Met Ala Thr Asn Lys
 515 520 525

Asp Asp Glu Asp Gln Phe Phe Pro Ile Asn Gly Val Leu Val Phe Gly
 530 535 540

Lys Thr Gly Ala Ala Asn Lys Thr Thr Leu Glu Asn Val Leu Met Thr
 545 550 555 560

Ser Glu Glu Glu Ile Lys Thr Thr Asn Pro Val Ala Thr Glu Glu Tyr
 565 570 575

Gly Val Val Ser Ser Asn Leu Gln Ser Ser Thr Ala Gly Pro Gln Thr
 580 585 590

Gln Thr Val Asn Ser Gln Gly Ala Leu Pro Gly Met Val Trp Gln Asn
 595 600 605

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

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

His Pro Pro Pro Gln Ile Leu Ile Lys Tyr Thr Ser Asn Tyr Tyr Lys
645 650 655

Ser Thr Asn Val Asp Phe Ala Val Asn Thr Glu Gly Thr Tyr Ser Glu
660 665 670

Pro Arg Pro Ile Gly Thr Arg Tyr Leu Thr Arg Asn Leu
675 680 685

<210> 114

<211> 724

<212> PRT

<213> capsid protein of AAV serotype, clone AAV5CAP

<400> 114

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 Tyr Arg Thr Thr Arg Pro Ile Gly Thr Arg Tyr Leu
705 710 715 720

Thr Arg Pro Leu

<210> 115
<211> 9
<212> DNA
<213> DraIII restriction enzyme site

<400> 115

caccacgtc

9

<210> 116
<211> 28
<212> DNA
<213> AV2cas

<400> 116

cgcagagacc aaagttcaac tgaaacga

28

<210> 117
<211> 255
<212> DNA
<213> adeno-associated virus serotype 10

<400> 117

ggtaattcct ccggaattg gcattgcgat tccacatggc tgggcgacag agtcatcacc 60

accagcacc gaacctgggt cctgcccacc tacaacaacc acatctacaa gcaaattctcc 120

agcgagacag gagccaccaa cgacaaccac tacttcgggt acagcaccac ctgggggtat 180

tttgacttta acagattcca ctgccacttt tcaccacgtg actggcagcg actcatcaac 240

aacaactggg gattc 255

<210> 118
<211> 258
<212> DNA
<213> adeno-associated virus serotype 11

<400> 118

ggtaattcct ccggaattg gcattgcgat tccacatggc tgggcgacag agtcatcacc 60

accagcacc gaacctgggc cctgccaacc tacaacaacc acctctacaa acaaattctcc 120

agcgcttcaa cgggggccag caacgacaac cactactttg gctacagcac cccctggggg 180

tatttttgact ttaacagatt ccactgccac ttctcaccac gtgactggca gcgactcatc 240
aacaacaact ggggattc 258

<210> 119
<211> 255
<212> DNA
<213> adeno-associated virus serotype 12

<400> 119
ggtaattcct ccggaaattg gcattgcat tccacatggc tgggcgaccg agtcattacc 60
accagcaccg ggacttgggc cctgcccacc tacaacaacc acctctacaa gcaaattctcc 120
agccaatcgg gtgccaccaa cgacaaccac tacttcggt acagcaccgc ttgggggtat 180
tttgatttca acagattcca ctgccatttc tcaccacgtg actggcagcg actcatcaac 240
aacaactggg gattc 255

<210> 120
<211> 2205
<212> DNA
<213> adeno-associated virus serotype, clone A3.1vp1

<400> 120
atggctgccg atggttatct tccagattgg ctgaggaca ctctctctga aggaatcaga 60
cagtgggtga agctcaaacc tggcccacca ccgccgaaac ctaaccaaca acaccgggac 120
gacagtaggg gtcttgtgct tcctgggtac aagtacctcg gacccttcaa cggactcgac 180
aaaggagagc cggtaacga ggcagacgcc gcggccctcg agcagacaa agcctacgac 240
caccagctca agcaagggga caaccctgac ctcaaataca accacgcgga cgctgaattt 300
caggagcgct ttcaagaaga tacgtctttc gggggcaacc tcgggcgagc agtcttccag 360
gccaaaaaga gggtactcga gcctcttggc ctggttgagg aagctgttaa gacggctcct 420
ggaaaaaaga gacctataga gcagtctcct gcagaaccgg actcttcttc gggcatcggc 480
aatcaggcc agcagccgc taagaaaaga ctcaattttg gtcagactgg cgacacagag 540
tcagtcccag acctcaacc aatcgagaa cccccgcag cccctctggt tgtgggatct 600
aatacaatgg cttcaggcgg tggggcacca atggcagaca ataacgaagg cgccgacgga 660
gtgggtaatt cctcgggaaa ttggcattgc gattccacat ggatgggcga cagagttatc 720
accaccagca caagaacctg ggccctcccc acctacaata atcacctcta caagcaaatc 780
tccagcgaat cgggagccac caacgacaac cactacttcg gctacagcac cccctggggg 840
tattttgact ttaacagatt ccactgtcac ttctcaccac gtgactggca gcgactcatc 900
aacaacaact ggggatttag acccaagaaa ctcaatttca agctcttcaa catccaagtc 960
aaggagggtc cgcagaatga tggaaccacg accatcgcca ataacttac cagcagcgtg 1020

caggtcttca cagactctga gtaccagctg ccctacgtcc tcggttcggc tcaccagggc	1080
tgccttcgc cgttcccagc agacgtcttc atgattcttc agtacggcta cttgactctg	1140
aacaatggca gccāagcggg aggacgttct tcattctact gtctagagta ttttccctct	1200
cagatgctga ggacgggaaa caacttcacc ttcagctaca cttttgaaga cgtgcctttc	1260
cacagcagct acgcgcacag ccagagtctg gatcggtga tgaatcctct cattgaccag	1320
tacctgtatt acctgagcaa aactcagggg acaagtggaa caacgcagca atcgagactg	1380
cagttcagcc aagctggggc tagctccatg gctcagcagg ccaaaaactg gctaccggga	1440
cccagctacc gacagcagcg aatgtctaag acggctaag acaacaacaa cagtgaattt	1500
gcttgagctg cagccaccaa atattacctg aatggaagaa attctctggt caatcccggt	1560
cccccaatgg ccagtcacaa ggacgatgag gaaaagtatt tccccatgca cggaaatctc	1620
atctttggaa aacaaggcac aggaactacc aatgtggaca ttgaatcagt gcttattaca	1680
gacgaagaag aaatcagaac aactaatcct gtggctacag aacaatacgg acaggttgcc	1740
accaaccatc agagtcagaa caccacagct tcctatggaa gtgtggacag ccagggaatc	1800
ttacctggaa tgggtgtggc ggaccgcgat gtctatcttc aaggtcccat ttggggccaaa	1860
actcctcaca cggacggaca ctttcatcct tctccgctca tgggaggctt tggactgaaa	1920
cacctctctc ccagatcct gatcaaaaac acacctgtgc cagcgaatcc cgcgacct	1980
ttcactcctg gaaagtttgc ttcgttcatt acccagtatt ccaccggaca ggtcagcgtg	2040
gaaatagagt gggagctgca gaaagaaaac agcaaacgct ggaaccoaga aattcagtac	2100
acctccaact acaacaagtc ggtgaatgtg gagtttaccg tggacgcaaa cgggtgtttat	2160
tctgaacccc gccctattgg cactcgttac cttaccggga acttg	2205