<110> HSU, HAILING
ZHANG, MING
KANNAN, GUNASEKARAN
JACOBSEN, FREDERICK W.
TSUJI, WAYNE

<120> PROTEINS SPECIFIC FOR BAFF AND B7RP1 AND USES THEREOF

<130> A-1887-WO-PCT

<140> --to be assigned--
<141> 2014-03-12

<150> 61/942,776
<151> 2014-02-21

<150> 61/780,260
<151> 2013-03-13

<160> 72

<170> PatentIn version 3.5

<210> 1
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 1
Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp
1 5 10 15

Pro Leu

<210> 2
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 2
Phe His Asp Cys Lys Trp Asp Leu Leu Thr Lys Gln Trp Val Cys His
1 5 10 15

Gly Leu

<210> 3
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<220>
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<222> (3)..(3)
<223> /replace="Tyr" or "Phe"

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Any amino acid

<220>
<221> VARIANT
<222> (7)..(7)
<223> /replace="Ile"

<220>
<221> VARIANT
<222> (8)..(8)
<223> /replace="Arg" or "His"

<220>
<221> VARIANT
<222> (10)..(10)
<223> /replace="Arg" or "His" or "Ala" or "Val" or "Leu" or "Ile" or "Pro" or "Phe" or "Trp" or "Met"

<220>
<221> misc_feature
<222> (1)..(12)
<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

<400> 3
Cys Lys Trp Asp Xaa Leu Thr Lys Gln Lys Val Cys
1               5                   10

<210> 4
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 4
Gly Gly Gly Gly
1

<210> 5
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<220>
<221> VARIANT
<222> (12)..(12)
<223> /replace="Val"

<220>
<221> misc_feature
<222> (1)..(23)
<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

<400> 5
Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Ser Ala Ser Ser Gly
1 5 10 15

Ser Gly Ser Ala Thr His Leu
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<210> 6
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 6
Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Val Ala Ser Ser Gly
1 5 10 15

Ser Gly Ser Ala Thr His Leu
20

<210> 7
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 7
Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Ser Ala Ser Ser Gly
1 5 10 15

Ser Gly Ser Ala Thr His Leu
20

<210> 8
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 8
Arg Ala Ser Gln Gly Ile Ser Asn Trp Leu Ala
1 5 10

<210> 9
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 9
Ala Ala Ser Ser Leu Gln Ser
1 5

<210> 10
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 10
Gln Gln Tyr Asp Ser Tyr Pro Arg Thr
1 5

<210> 11
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 11
Ser Tyr Trp Met Ser
1 5

<210> 12
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 12
Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val Lys
1 5 10 15

Gly

<210> 13
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 13
Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe
1 5 10

<210> 14
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 14
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser Leu Ile
35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Ser Tyr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 15
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 15
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 16
<211> 509
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 16
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

```
Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115                 120                 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
    130                 135                 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145                 150                 155                 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
                165                 170                 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
            180                 185                 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
    210                 215                 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225                 230                 235                 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                 250                 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
            260                 265                 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
        275                 280                 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
    290                 295                 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305                 310                 315                 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
                325                 330                 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
            340                 345                 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
        355                 360                 365
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Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Gly Gly
435 440 445

Gly Gly Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val
450 455 460

Cys Asp Pro Leu Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Gly
465 470 475 480

Ala Ser Ser Gly Ser Gly Ser Ala Thr Gly Ser Leu Pro Gly Cys Lys
485 490 495

Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu
500 505

<210> 17
<211> 511
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 17
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
210 215 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
290 295 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu

355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly
435 440 445

Gly Gly Gly Gly Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln
450 455 460

Trp Val Cys Asp Pro Leu Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly
465 470 475 480

Ser Val Ala Ser Ser Gly Ser Gly Ser Ala Thr His Leu Leu Pro Gly
485 490 495

Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu
500 505 510

<210> 18
<211> 511
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 18
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

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Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
        115                 120                 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
    130                 135                 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145                 150                 155                 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
                165                 170                 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
            180                 185                 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
    210                 215                 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225                 230                 235                 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                 250                 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
            260                 265                 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
        275                 280                 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
    290                 295                 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305                 310                 315                 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
                325                 330                 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
            340                 345                 350
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```
Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
        355                 360                 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
    370                 375                 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385                 390                 395                 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
                405                 410                 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
            420                 425                 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly
        435                 440                 445

Gly Gly Gly Gly Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln
    450                 455                 460

Trp Val Cys Asp Pro Leu Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly
465                 470                 475                 480

Ser Ser Ala Ser Ser Gly Ser Gly Ser Ala Thr His Leu Leu Pro Gly
                485                 490                 495

Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu
            500                 505                 510


<210> 19
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 19
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Trp
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser Leu Ile
        35                  40                  45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
```

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Ser Tyr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 20
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<220>
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<222> (2)..(9)
<223> Any amino acid

<400> 20
Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 21
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 21
Leu Glu Trp Ile Gly
1 5

<210> 22
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Any amino acid

<400> 22
Trp Gly Xaa Gly
1

<210> 23
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Any amino acid

<400> 23
Phe Gly Xaa Gly
1

<210> 24
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 24
Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Gly Ala Ser Ser Gly
1 5 10 15

Ser Gly Ser Ala Thr Gly Ser
20

<210> 25
<211> 447
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 25
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
210 215 220

```
Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225                 230                 235                 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                 250                 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
            260                 265                 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
        275                 280                 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
    290                 295                 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305                 310                 315                 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
                325                 330                 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
            340                 345                 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
        355                 360                 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
    370                 375                 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385                 390                 395                 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
                405                 410                 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
            420                 425                 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
        435                 440                 445


<210> 26
<211> 508
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 26
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Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp
1               5                   10                  15

Pro Leu Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Gly Ala Ser
            20                  25                  30

Ser Gly Ser Gly Ser Ala Thr Gly Ser Leu Pro Gly Cys Lys Trp Asp
        35                  40                  45

Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu Gly Gly Glu Val Gln
    50                  55                  60

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
65                  70                  75                  80

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Trp Met Ser
                85                  90                  95

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile
            100                 105                 110

Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val Lys Gly Arg
        115                 120                 125

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met
    130                 135                 140

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Glu
145                 150                 155                 160

Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly Gln Gly Thr
                165                 170                 175

Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
            180                 185                 190

Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly
        195                 200                 205

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
    210                 215                 220

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
225                 230                 235                 240

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
                245                 250                 255

Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser
            260                 265                 270
```

```
Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu Cys
        275                 280                 285

Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe
    290                 295                 300

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
305                 310                 315                 320

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe
                325                 330                 335

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
            340                 345                 350

Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr
        355                 360                 365

Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
    370                 375                 380

Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr
385                 390                 395                 400

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
                405                 410                 415

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
            420                 425                 430

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
        435                 440                 445

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser
    450                 455                 460

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
465                 470                 475                 480

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
                485                 490                 495

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
            500                 505
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<210> 27
<211> 275
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

polypeptide"

<400> 27

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Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp
1               5                  10                  15

Pro Leu Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Gly Ala Ser
            20                  25                  30

Ser Gly Ser Gly Ser Ala Thr Gly Ser Leu Pro Gly Cys Lys Trp Asp
        35                  40                  45

Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu Gly Gly Asp Ile Gln
    50                  55                  60

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
65                  70                  75                  80

Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Trp Leu Ala Trp
                85                  90                  95

Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser Leu Ile Tyr Ala Ala
            100                 105                 110

Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
        115                 120                 125

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
    130                 135                 140

Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Ser Tyr Pro Arg Thr Phe Gly
145                 150                 155                 160

Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val
                165                 170                 175

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

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
        195                 200                 205

Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
    210                 215                 220

Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
225                 230                 235                 240

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
                245                 250                 255

Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
```

260 265 270

Gly Glu Cys
275

<210> 28
<211> 511
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 28
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
195 200 205

```
Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
    210                 215                 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225                 230                 235                 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                 250                 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
            260                 265                 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
        275                 280                 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
    290                 295                 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305                 310                 315                 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
                325                 330                 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
            340                 345                 350

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
        355                 360                 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
    370                 375                 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
385                 390                 395                 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
                405                 410                 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
            420                 425                 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Gly Gly
        435                 440                 445

Gly Gly Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val
    450                 455                 460

Cys Asp Pro Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480
```

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Leu Pro Gly
485 490 495

Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu
500 505 510

<210> 29
<211> 510
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 29
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

```
Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
    210                 215                 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225                 230                 235                 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                 250                 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
            260                 265                 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
        275                 280                 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
    290                 295                 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305                 310                 315                 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
                325                 330                 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
            340                 345                 350

Pro Ser Arg Glu Glu Met Gly Gly Leu Pro Gly Cys Lys Trp Asp Leu
        355                 360                 365

Leu Ile Lys Gln Trp Val Cys Asp Pro Leu Gly Ser Gly Ser Ala Thr
    370                 375                 380

Gly Gly Ser Gly Ser Gly Ala Ser Ser Gly Ser Gly Ser Ala Thr Gly
385                 390                 395                 400

Ser Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys
                405                 410                 415

Asp Pro Leu Gly Gly Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
            420                 425                 430

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
        435                 440                 445

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp
    450                 455                 460
```

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
465 470 475 480

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
485 490 495

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
500 505 510

<210> 30
<211> 490
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 30
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

```
Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
            180                 185                 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
    210                 215                 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225                 230                 235                 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                 250                 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
            260                 265                 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
        275                 280                 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
    290                 295                 300

Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305                 310                 315                 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
                325                 330                 335

Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
            340                 345                 350

Pro Ser Arg Glu Glu Met Gly Gly Leu Pro Gly Cys Lys Trp Asp Leu
        355                 360                 365

Leu Ile Lys Gln Trp Val Cys Asp Pro Leu Gly Gly Thr Lys Asn Gln
    370                 375                 380

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
385                 390                 395                 400

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                405                 410                 415

Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
            420                 425                 430

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
        435                 440                 445
```

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
450 455 460

Leu Ser Pro Gly Gly Gly Gly Gly Leu Pro Gly Cys Lys Trp Asp Leu
465 470 475 480

Leu Ile Lys Gln Trp Val Cys Asp Pro Leu
485 490

<210> 31
<211> 491
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 31
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Lys Gln Asp Gly Asn Glu Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Ile Leu Trp Phe Gly Asp Leu Pro Thr Phe Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
130 135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val

```
            180                 185                 190

Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
        195                 200                 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
    210                 215                 220

Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
225                 230                 235                 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
                245                 250                 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Gly Gly Leu Pro
            260                 265                 270

Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu
        275                 280                 285

Gly Gly Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    290                 295                 300

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
305                 310                 315                 320

Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu
                325                 330                 335

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
            340                 345                 350

Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro
        355                 360                 365

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

Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu
385                 390                 395                 400

Gly Gly Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
                405                 410                 415

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
            420                 425                 430

Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe
        435                 440                 445

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
```

450 455 460

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
465 470 475 480

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
485 490

<210> 32
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 32
Met Leu Pro Gly Cys Lys Trp Asp Leu Leu Ile Lys Gln Trp Val Cys
1 5 10 15

Asp Pro Leu Gly Ser Gly Ser Ala Thr Gly Gly Ser Gly Ser Thr Ala
20 25 30

Ser Ser Gly Ser Gly Ser Ala Thr His Met Leu Pro Gly Cys Lys Trp
35 40 45

Asp Leu Leu Ile Lys Gln Trp Val Cys Asp Pro Leu Gly Gly Gly Gly
50 55 60

Gly Val Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
65 70 75 80

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
85 90 95

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
100 105 110

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
115 120 125

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
130 135 140

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
145 150 155 160

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
165 170 175

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
180 185 190

```
Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln
        195                 200                 205

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
    210                 215                 220

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
225                 230                 235                 240

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
                245                 250                 255

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
            260                 265                 270

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
        275                 280                 285

Leu Ser Pro Gly Lys
    290
```

<210> 33
<211> 232
<212> PRT
<213> Homo sapiens

<400> 33

```
Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1               5                   10                  15

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
            20                  25                  30

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
        35                  40                  45

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
    50                  55                  60

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
65                  70                  75                  80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
                85                  90                  95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
            100                 105                 110

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
        115                 120                 125
```

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
130 135 140

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
180 185 190

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
210 215 220

Ser Leu Ser Leu Ser Pro Gly Lys
225 230

<210> 34
<211> 228
<212> PRT
<213> Homo sapiens

<400> 34
Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val
1 5 10 15

Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
20 25 30

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
35 40 45

His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Met Glu
50 55 60

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr
65 70 75 80

Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn
85 90 95

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro
100 105 110

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln
115 120 125

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
130 135 140

```
Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
145                 150                 155                 160

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
                165                 170                 175

Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
            180                 185                 190

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
        195                 200                 205

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
    210                 215                 220

Ser Pro Gly Lys
225
```

<210> 35
<211> 279
<212> PRT
<213> Homo sapiens

<400> 35

```
Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Cys Pro Arg Cys
1               5                   10                  15

Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro
            20                  25                  30

Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Glu
        35                  40                  45

Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala Pro
    50                  55                  60

Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
65                  70                  75                  80

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
                85                  90                  95

Asp Val Ser His Glu Asp Pro Glu Val Gln Phe Lys Trp Tyr Val Asp
            100                 105                 110

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr
        115                 120                 125

Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
    130                 135                 140
```

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu
145 150 155 160

Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg
165 170 175

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys
180 185 190

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
195 200 205

Ile Ala Val Glu Trp Glu Ser Ser Gly Gln Pro Glu Asn Asn Tyr Asn
210 215 220

Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
225 230 235 240

Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Ile Phe Ser
245 250 255

Cys Ser Val Met His Glu Ala Leu His Asn Arg Phe Thr Gln Lys Ser
260 265 270

Leu Ser Leu Ser Pro Gly Lys
275

<210> 36
<211> 229
<212> PRT
<213> Homo sapiens

<400> 36
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
165 170 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
180 185 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
195 200 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
210 215 220

Leu Ser Leu Gly Lys
225

<210> 37
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 37
Gly Gly Gly Ser
1

<210> 38
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 38
Gly Gly Gly Pro
1

<210> 39
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 39
Gly Gly Gly Gln
1

<210> 40
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 40
Gly Gly Gly Gly Gly
1 5

<210> 41
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic oligonucleotide"

<400> 41
ctgccgggtt gtaaatggga cctgctgatc aaacagtggg tttgtgaccc gctg 54

<210> 42
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic oligonucleotide"

<400> 42
ggtggtggtg gt 12

<210> 43
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic oligonucleotide"

<220>
<221> modified_base
<222> (36)..(36)

<223> a, c, t, g, unknown or other

<400> 43
ggatccggtt ctgctactgg tggttccggc tccdbngcaa gctctggttc aggcagtgcg 60

actcatctg 69

<210> 44
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 44
ggatccggtt ctgctactgg tggttccggc tccgtcgcaa gctctggttc aggcagtgcg 60

actcatctg 69

<210> 45
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 45
ggatccggtt ctgctactgg tggttccggc tcctcggcaa gctctggttc aggcagtgcg 60

actcatctg 69

<210> 46
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 46
cgggcgagtc agggtattag caactggtta gcc 33

<210> 47
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
oligonucleotide"

<400> 47
gctgcatcca gtttgcaaag t 21

<210> 48
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic oligonucleotide"

<400> 48
caacagtatg atagttaccc tcggacg 27

<210> 49
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic oligonucleotide"

<400> 49
agttattgga tgagt 15

<210> 50
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic oligonucleotide"

<400> 50
tacataaagc aagatggaaa tgagaaatac tatgtggact ctgtgaaggg c 51

<210> 51
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic oligonucleotide"

<400> 51
gaagggatac tttggttcgg ggacttaccg acgttc 36

<210> 52
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 52
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gggtattagc aactggttag cctggtatca gcagaaacca 120

gagaaagccc ctaagtccct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg caacttatta ctgccaacag tatgatagtt accctcggac gttcggccaa 300

gggaccaagg tggaaatcaa acga 324

<210> 53
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 53
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agt 363

<210> 54
<211> 1527
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 54
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actccctcag cagcgtggta acggtgccct cctcaaattt cgggacgcag 600

acatatacat gcaatgtgga tcataagcct tccaacacga aggtggacaa gactgtggag 660

cggaagtgtt gcgtcgagtg cccaccgtgt cccgctcctc cggtcgctgg cccatcagta 720

tttctcttcc ctcccaagcc aaaagataca ctcatgatct caagaacccc agaagtgact 780

tgtgtggtcg tggacgtgtc gcatgaggat ccggaggtgc agtttaactg gtatgtggat 840

ggcgtagaag tccacaacgc caagaccaag cctagagagg aacaattcaa ctcgacgttc 900

agggtggtca gcgtgttgac agtagtccac caggactggc ttaatgggaa ggaatacaaa 960

tgtaaggtct caaacaaagg gctcccggca cccattgaga agacaatttc caaaaccaag 1020

ggacagccca gggaacccca agtgtatacg ctgcccccaa gccgggagga aatgacgaaa 1080

aatcaggtca gcctcacgtg tctcgtaaag ggattttacc cgtcggacat cgcggtggag 1140

tgggagtcaa atggacagcc cgaaaacaac tataagacca caccaccgat gctcgactcc 1200

gacggaagct tctttttgta ctcgaaactg acggtggaca aatcgcgctg gcaacagggg 1260

aatgtcttta gctgctcggt catgcacgag gccctccaca atcattacac tcagaaaagc 1320

ttgtcgctct cgccgggtgg gggtggagga ctgcccggtt gcaaatggga tctgttgatc 1380

aaacagtggg tatgcgaccc tttgggaagc ggctcggcga cgggtgggtc ggggtcgggt 1440

gcgtccagcg gatcgggctc ggccactggg tcactccctg gatgcaagtg ggatcttctt 1500

atcaagcaat gggtgtgcga tcccctc 1527

<210> 55
<211> 1533
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 55
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggGtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actccctcag cagcgtggta acggtgccct cctcaaattt cgggacgcag 600

acatatacat gcaatgtgga tcataagcct tccaacacga aggtggacaa gactgtggag 660

cggaagtgtt gcgtcgagtg cccaccgtgt cccgctcctc cggtcgctgg cccatcagta 720

tttctcttcc ctcccaagcc aaaagataca ctcatgatct caagaacccc agaagtgact 780

tgtgtggtcg tggacgtgtc gcatgaggat ccggaggtgc agtttaactg gtatgtggat 840

ggcgtagaag tccacaacgc caagaccaag cctagagagg aacaattcaa ctcgacgttc 900

agggtggtca gcgtgttgac agtagtccac caggactggc ttaatgggaa ggaatacaaa 960

tgtaaggtct caaacaaagg gctcccggca cccattgaga agacaatttc caaaaccaag 1020

ggacagccca gggaacccca agtgtatacg ctgcccccaa gccgggagga aatgacgaaa 1080

aatcaggtca gcctcacgtg tctcgtaaag ggattttacc cgtcggacat cgcggtggag 1140

tgggagtcaa atggacagcc cgaaaacaac tataagacca caccaccgat gctcgactcc 1200

gacggaagct tctttttgta ctcgaaactg acggtggaca aatcgcgctg gcaacagggg 1260

aatgtcttta gctgctcggt catgcacgag gccctccaca atcattacac tcagaaaagc 1320

ttgtcgctct cgccgggtaa aggtggtggt ggtggtctgc cgggttgtaa atgggacctg 1380

ctgatcaaac agtgggtttg tgacccgctg ggatccggtt ctgctactgg tggttccggc 1440

tccgtcgcaa gctctggttc aggcagtgcg actcatctgc tgccgggttg taaatgggac 1500

ctgctgatca aacagtgggt ttgtgacccg ctg 1533

<210> 56
<211> 1533
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 56
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actccctcag cagcgtggta acggtgccct cctcaaattt cgggacgcag 600

acatatacat gcaatgtgga tcataagcct tccaacacga aggtggacaa gactgtggag 660

cggaagtgtt gcgtcgagtg cccaccgtgt cccgctcctc cggtcgctgg cccatcagta 720

tttctcttcc ctcccaagcc aaaagataca ctcatgatct caagaacccc agaagtgact 780

tgtgtggtcg tggacgtgtc gcatgaggat ccggaggtgc agtttaactg gtatgtggat 840

ggcgtagaag tccacaacgc caagaccaag cctagagagg aacaattcaa ctcgacgttc 900

agggtggtca gcgtgttgac agtagtccac caggactggc ttaatgggaa ggaatacaaa 960

tgtaaggtct caaacaaagg gctcccggca cccattgaga agacaatttc caaaaccaag 1020

ggacagccca gggaacccca agtgtatacg ctgcccccaa gccgggagga aatgacgaaa 1080

aatcaggtca gcctcacgtg tctcgtaaag ggattttacc cgtcggacat cgcggtggag 1140

tgggagtcaa atggacagcc cgaaaacaac tataagacca caccaccgat gctcgactcc 1200

gacggaagct tctttttgta ctcgaaactg acggtggaca aatcgcgctg gcaacagggg 1260

aatgtcttta gctgctcggt catgcacgag gccctccaca atcattacac tcagaaaagc 1320

ttgtcgctct cgccgggtaa aggtggtggt ggtggtctgc cgggttgtaa atgggacctg 1380

ctgatcaaac agtgggtttg tgacccgctg ggatccggtt ctgctactgg tggttccggc 1440

tcctcggcaa gctctggttc aggcagtgcg actcatctgc tgccgggttg taaatgggac 1500

ctgctgatca aacagtgggt ttgtgacccg ctg 1533

<210> 57
<211> 642
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 57
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60

atcacttgtc gggcgagtca gggtattagc aactggttag cctggtatca gcagaaacca 120

gagaaagccc ctaagtccct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180

aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240

gaagattttg caacttatta ctgccaacag tatgatagtt accctcggac gttcggccaa 300

gggaccaagg tggaaatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcca 360

tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420

cccagagagg ccaaagtaca gtggaaggtg gataacgccc tccaatcggg taactcccag 480

gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540

ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600

ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt 642

<210> 58
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

oligonucleotide"

<400> 58
ggaagcggct cggcgacggg tgggtcgggg tcgggtgcgt ccagcggatc gggctcggcc 60

actgggtca 69

<210> 59
<211> 1341
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 59
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actccctcag cagcgtggta acggtgccct cctcaaattt cgggacgcag 600

acatatacat gcaatgtgga tcataagcct tccaacacga aggtggacaa gactgtggag 660

cggaagtgtt gcgtcgagtg cccaccgtgt cccgctcctc cggtcgctgg cccatcagta 720

tttctcttcc ctcccaagcc aaaagataca ctcatgatct caagaacccc agaagtgact 780

tgtgtggtcg tggacgtgtc gcatgaggat ccggaggtgc agtttaactg gtatgtggat 840

ggcgtagaag tccacaacgc caagaccaag cctagagagg aacaattcaa ctcgacgttc 900

agggtggtca gcgtgttgac agtagtccac caggactggc ttaatgggaa ggaatacaaa 960

tgtaaggtct caaacaaagg gctcccggca cccattgaga agacaatttc caaaaccaag 1020

ggacagccca gggaacccca agtgtatacg ctgcccccaa gccgggagga aatgacgaaa 1080

aatcaggtca gcctcacgtg tctcgtaaag ggattttacc cgtcggacat cgcggtggag 1140

tgggagtcaa atggacagcc cgaaaacaac tataagacca caccaccgat gctcgactcc 1200

gacggaagct tctttttgta ctcgaaactg acggtggaca aatcgcgctg gcaacagggg 1260

aatgtcttta gctgctcggt catgcacgag gccctccaca atcattacac tcagaaaagc 1320

ttgtcgctct cgccgggtaa a 1341

<210> 60
<211> 1524

<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 60
cttcccggat gcaagtggga tctgttgatc aagcaatggg tctgcgaccc tctcgggtca 60

gggtccgcga ccggtggatc ggggtcggga gcgtcatcgg gcagcggaag cgctacggga 120

tcacttcccg ggtgcaaatg ggacctcctg atcaaacaat gggtatgtga tccgctcggt 180

ggcgaggtgc agctggtgga gtctggggga ggcttggtcc agcctggggg gtccctgaga 240

ctctcctgtg cagcttctgg atttaccttt agtagttatt ggatgagttg ggtccgccag 300

gctccaggga aagggctgga gtgggtggcc tacataaagc aagatggaaa tgagaaatac 360

tatgtggact ctgtgaaggg ccgattcacc atctccagag acaacgccaa gaactcattg 420

tatctgcaaa tgaacagcct gagagccgag gacacggctg tgtattactg tgcgagggaa 480

gggatacttt ggttcgggga cttaccgacg ttctggggcc agggaaccct ggtcaccgtc 540

tctagtgcct ccaccaaggg cccatcggtc ttcccctgg cgccctgctc caggagcacc 600

tccgagagca cagcggccct gggctgcctg gtcaaggact acttccccga accggtgacg 660

gtgtcgtgga actcaggcgc tctgaccagc ggcgtgcaca ccttcccagc tgtcctacag 720

tcctcaggac tctactccct cagcagcgtg gtgaccgtgc cctccagcaa cttcggcacc 780

cagacctaca cctgcaacgt agatcacaag cccagcaaca ccaaggtgga caagacagtt 840

gagcgcaaat gttgtgtcga gtgcccaccg tgcccagcac cacctgtggc aggaccgtca 900

gtcttcctct tccccccaaa acccaaggac accctcatga tctcccggac ccctgaggtc 960

acgtgcgtgg tggtggacgt gagccacgaa gaccccgagg tccagttcaa ctggtacgtg 1020

gacggcgtgg aggtgcataa tgccaagaca aagccacggg aggagcagtt caacagcacg 1080

ttccgtgtgg tcagcgtcct caccgttgtg caccaggact ggctgaacgg caaggagtac 1140

aagtgcaagg tctccaacaa aggcctccca gcccccatcg agaaaaccat ctccaaaacc 1200

aaagggcagc cccgagaacc acaggtgtac accctgcccc catcccggga ggagatgacc 1260

aagaaccagg tcagcctgac ctgcctggtc aaaggcttct accccagcga catcgccgtg 1320

gagtgggaga gcaatgggca gccggagaac aactacaaga ccacacctcc catgctggac 1380

tccgacggct ccttcttcct ctacagcaag ctcaccgtgg acaagagcag gtggcagcag 1440

gggaacgtct tctcatgctc cgtgatgcat gaggctctgc acaaccacta cacgcagaag 1500

agcctctccc tgtctccggg taaa 1524

<210> 61
<211> 825
<212> DNA
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 61
ctccctgggt gcaaatggga cctgttgatt aagcagtggg tctgcgaccc tctcggatcg 60

ggaagcgcaa ctgggggttc aggctcaggg gctagctccg gatcggggtc ggccacaggg 120

tcgctccccg gatgtaagtg ggacctttg attaaacagt gggtgtgcga tccacttgga 180

ggtgatatcc agatgacaca gtcaccctcg tcgttgagcg ccagcgtggg agatagagtg 240

acgatcacct gtcgagccag ccagggcatc tccaactggc ttgcgtggta ccaacaaaag 300

cccgagaagg caccgaaatc gctgatctac gcggcgtcgt cactgcagtc gggtgtaccg 360

tcgcggttta gcgggtccgg gtccggaacg gacttcacgc tcacgatttc ctcattgcag 420

ccggaagatt ttgcgactta ttactgtcag caatatgact catatccccg cacattcggt 480

cagggaacca aggtcgagat caaacgtacg gtggctgcac catctgtctt catcttcccg 540

ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 600

tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc 660

caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg 720

acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt cacccatcag 780

ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt 825

<210> 62
<211> 1533
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 62
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actccctcag cagcgtggta acggtgccct cctcaaattt cgggacgcag 600

acatatacat gcaatgtgga tcataagcct tccaacacga aggtggacaa gactgtggag 660

cggaagtgtt gcgtcgagtg cccaccgtgt cccgctcctc cggtcgctgg cccatcagta 720

tttctcttcc ctcccaagcc aaaagataca ctcatgatct caagaacccc agaagtgact 780

tgtgtggtcg tggacgtgtc gcatgaggat ccggaggtgc agtttaactg gtatgtggat 840

ggcgtagaag tccacaacgc caagaccaag cctagagagg aacaattcaa ctcgacgttc 900

agggtggtca gcgtgttgac agtagtccac caggactggc ttaatgggaa ggaatacaaa 960

tgtaaggtct caaacaaagg gctcccggca cccattgaga agacaatttc caaaaccaag 1020

ggacagccca gggaacccca agtgtatacg ctgcccccaa gccgggagga aatgacgaaa 1080

aatcaggtca gcctcacgtg tctcgtaaag ggattttacc cgtcggacat cgcggtggag 1140

tgggagtcaa atggacagcc cgaaaacaac tacaaaacga ccccacctat gctcgattcg 1200

gacggcagct tctttttgta ttcaaagttg acagtggaca aatcgcgatg gcagcagggc 1260

aacgtcttct catgttcagt aatgcatgag gcccttcaca accactacac gcagaagtcc 1320

ctctcattgt cgccgggtgg gggtggagga ctgcccgggt gcaagtggga cctcttgatc 1380

aaacagtggg tatgcgaccc tttgggaggg ggtgggtcag gaggggggagg ttccggtgga 1440

ggtggttccg ggggaggcgg atcaggaggt ggaggatcgt tgcccggctg taagtgggat 1500

ctgctgatca agcagtgggt ctgtgatcct ttg 1533

<210> 63
<211> 1530
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 63
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actccctcag cagcgtggtg accgtgccct ccagcaactt cggcacccag 600

acctacacct gcaacgtaga tcacaagccc agcaacacca aggtggacaa gacagttgag 660

cgcaaatgtt gtgtcgagtg cccaccgtgc ccagcaccac ctgtggcagg accgtcagtc 720

ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcacg 780

tgcgtggtgg tggacgtgag ccacgaagac cccgaggtcc agttcaactg gtacgtggac 840

ggcgtggagg tgcataatgc caagacaaag ccacgggagg agcagttcaa cagcacgttc 900

cgtgtggtca gcgtcctcac cgttgtgcac caggactggc tgaacggcaa ggagtacaag 960

tgcaaggtct ccaacaaagg cctcccagcc cccatcgaga aaaccatctc caaaaccaaa 1020

gggcagcccc gagaaccaca ggtgtacacc ctgccacctt cgcgggagga aatgggagga 1080

ctccccgggt gcaagtggga tcttcttatc aaacagtggg tatgcgaccc gctggggtca 1140

gggtcagcga caggtggatc gggtagcggc gcatcgagcg gatcagggtc cgcgacgggc 1200

tcacttcccg gatgcaaatg ggacctcttg attaagcagt gggtgtgtga cccgttgggt 1260

ggaacgaaga atcaggtctc gttgacgtgt ctggtgaagg ggttttatcc ctcggatatc 1320

gctgtcgagt gggagtcgaa tggacagccc gaaaacaact acaagaccac cccgcctatg 1380

ctggactccg atggttcctt ctttttgtac tcgaaactga ctgtggataa gagcaggtgg 1440

cagcaaggga atgtattctc gtgttccgtc atgcacgaag ccctccataa ccactataca 1500

caaaaatcgc tttcacttag cccgggaaaa 1530

<210> 64
<211> 1470
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 64
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actccctcag cagcgtggtg accgtgccct ccagcaactt cggcacccag 600

acctacacct gcaacgtaga tcacaagccc agcaacacca aggtggacaa gacagttgag 660

cgcaaatgtt gtgtcgagtg cccaccgtgc ccagcaccac ctgtggcagg accgtcagtc 720

ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcacg 780

tgcgtggtgg tggacgtgag ccacgaagac cccgaggtcc agttcaactg gtacgtggac 840

ggcgtggagg tgcataatgc caagacaaag ccacgggagg agcagttcaa cagcacgttc 900

cgtgtggtca gcgtcctcac cgttgtgcac caggactggc tgaacggcaa ggagtacaag 960

tgcaaggtct ccaacaaagg cctcccagcc cccatcgaga aaaccatctc caaaaccaaa 1020

gggcagcccc gagaaccaca ggtgtacacc ctgccgccct cgagagaaga gatgggcggg 1080

ttgccggggt gtaagtggga cttgctgatt aaacaatggg tgtgcgaccc tctgggcggt 1140

accaagaatc aggtctcact gacatgtctc gtaaaaggtt tttacccgtc agatatcgcg 1200

gtcgagtggg aatccaacgg acaacccgag aataactaca agacgactcc cccaatgctc 1260

gattcggatg gatccttctt cctttatagc aaacttacag tagacaaatc acggtggcag 1320

caggggaacg tgtttagctg ttcggtgatg cacgaagcct tgcataatca ctatacgcag 1380

aagtcgcttt ccctgtcgcc gggaggggga ggtgggctcc ctggatgcaa gtgggatctt 1440

ttgatcaagc agtgggtctg cgacccccctc 1470

<210> 65
<211> 1473
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 65
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60

tcctgtgcag cttctggatt tacctttagt agttattgga tgagttgggt ccgccaggct 120

ccagggaaag ggctggagtg ggtggcctac ataaagcaag atggaaatga gaaatactat 180

gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcattgtat 240

ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggaaggg 300

atactttggt tcggggactt accgacgttc tggggccagg gaaccctggt caccgtctct 360

agtgcctcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctcc 420

gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 480

tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt cctacagtcc 540

tcaggactct actcctcag cagcgtggtg accgtgccct ccagcaactt cggcacccag 600

acctacacct gcaacgtaga tcacaagccc agcaacacca aggtggacaa gacagttgag 660

cgcaaatgtt gtgtcgagtg cccaccgtgc ccagcaccac ctgtggcagg accgtcagtc 720

ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcacg 780

tgcgtggtgg tggatgtaag ccatggggga ctgcctggat gcaagtggga tcttctcatt 840

aagcaatggg tctgtgaccc tttgggcgga gaggacccgg aagtccagtt caactggtac 900

gtggacggcg tggaggtgca taatgccaag acaaagccac gggaggagca gttcaacagc 960

acgttccgtg tggtcagcgt cctcaccgtt gtgcaccagg actggctgaa cggcaaggag 1020

tacaagtgca aggtctccaa caaaggcctc ccagccccca tcgagaaaac catctccaaa 1080

accaaagggc agccccgaga accacaggtg tacaccctgc cgccctcgag agaagagatg 1140

ggcgggttgc cggggtgtaa gtgggacttg ctgattaaac aatgggtgtg cgaccctctg 1200

ggcggtacca agaatcaggt ctcactgaca tgtctcgtaa aaggttttta cccgtcagat 1260

atcgcggtcg agtgggaatc caacggacaa cccgagaata actacaagac gactccccca 1320

atgctcgatt cggatggatc cttcttcctt tatagcaaac ttacagtaga caaatcacgg 1380

tggcagcagg ggaacgtgtt tagctgttcg gtgatgcacg aagccttgca taatcactat 1440

acgcagaagt cgctttccct gtctccgggt aaa 1473

<210> 66
<211> 879
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polynucleotide"

<400> 66
atgcttccag gttgtaaatg ggatcttctt attaaacaat gggtttgtga tccacttggt 60

tctggttctg ctactggtgg ttccggctcc accgcaagct ctggttcagg ttctgctact 120

catatgctgc cgggttgtaa atgggacctg ctgatcaaac agtgggtttg tgacccgctg 180

ggtggaggcg gtggggtcga caaaactcac acatgtccac cttgtccagc tccggaactc 240

ctgggggggac cgtcagtctt cctcttcccc ccaaaaccca aggacaccct catgatctcc 300

cggacccctg aggtcacatg cgtggtggtg gacgtgagcc acgaagaccc tgaggtcaag 360

ttcaactggt acgtggacgg cgtggaggtg cataatgcca agacaaagcc gcgggaggag 420

cagtacaaca gcacgtaccg tgtggtcagc gtcctcaccg tcctgcacca ggactggctg 480

aatggcaagg agtacaagtg caaggtctcc aacaaagccc tcccagcccc catcgagaaa 540

accatctcca aagccaaagg gcagccccga gaaccacagg tgtacaccct gcccccatcc 600

cgggatgagc tgaccaagaa ccaggtcagc ctgacctgcc tggtcaaagg cttctatccc 660

agcgacatcg ccgtggagtg ggagagcaat gggcagccgg agaacaacta caagaccacg 720

cctcccgtgc tggactccga cggctccttc ttcctctaca gcaagctcac cgtggacaag 780

agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcatgaggc tctgcacaac 840

cactacacgc agaagagcct ctccctgtct ccgggtaaa 879

<210> 67
<211> 696
<212> DNA
<213> Homo sapiens

<400> 67
gagcccaaat cttgtgacaa aactcacaca tgcccaccgt gcccagcacc tgaactcctg 60

gggggaccgt cagtcttcct cttcccccca aaacccaagg acaccctcat gatctcccgg 120

acccctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagttc 180

aactggtacg tggacggcgt ggaggtgcat aatgccaaga caaagccgcg ggaggagcag 240

tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat 300

ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagccccat cgagaaaacc 360

atctccaaag ccaaagggca gccccgagaa ccacaggtgt acaccctgcc cccatcccgg 420

gatgagctga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatcccagc 480

gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct 540

cccgtgctgg actccgacgg ctccttcttc ctctatagca agctcaccgt ggacaagagc 600

aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac 660

tacacgcaga agagcctctc cctgtctccg ggtaaa 696

<210> 68
<211> 684
<212> DNA
<213> Homo sapiens

<400> 68
gagcgcaaat gttgtgtcga gtgcccaccg tgcccagcac cacctgtggc aggaccgtca 60

gtcttcctct tccccccaaa acccaaggac accctcatga tctcccggac ccctgaggtc 120

acgtgcgtgg tggtggacgt gagccacgaa gaccccgagg tccagttcaa ctggtacgtg 180

gacggcgtgg aggtgcataa tgccaagaca aagccacggg aggagcagtt caacagcacg 240

ttccgtgtgg tcagcgtcct caccgttgtg caccaggact ggctgaacgg caaggagtac 300

aagtgcaagg tctccaacaa aggcctccca gcccccatcg agaaaaccat ctccaaaacc 360

aaagggcagc cccgagaacc acaggtgtac accctgcccc catcccggga ggagatgacc 420

aagaaccagg tcagcctgac ctgcctggtc aaaggcttct accccagcga catcgccgtg 480

gagtgggaga gcaatgggca gccggagaac aactacaaga ccacacctcc catgctggac 540

tccgacggct ccttcttcct ctacagcaag ctcaccgtgg acaagagcag gtggcagcag 600

gggaacgtct tctcatgctc cgtgatgcat gaggctctgc acaaccacta cacgcagaag 660

agcctctccc tgtctccggg taaa 684

<210> 69
<211> 837
<212> DNA
<213> Homo sapiens

<400> 69
gagctcaaaa ccccacttgg tgacacaact cacacatgcc cacggtgccc agagcccaaa 60

tcttgtgaca cacctccccc gtgcccacgg tgcccagagc ccaaatcttg tgacacacct 120

cccccgtgcc cacggtgccc agagcccaaa tcttgtgaca cacctccccc atgcccacgg 180

tgcccagcac ctgaactcct gggaggaccg tcagtcttcc tcttcccccc aaaacccaag 240

gataccctta tgatttcccg gacccctgag gtcacgtgcg tggtggtgga cgtgagccac 300

gaagaccccg aggtccagtt caagtggtac gtggacggcg tggaggtgca taatgccaag 360

acaaagccgc gggaggagca gttcaacagc acgttccgtg tggtcagcgt cctcaccgtc 420

ctgcaccagg actggctgaa cggcaaggag tacaagtgca aggtctccaa caaagccctc 480

ccagccccca tcgagaaaac catctccaaa accaaaggac agccccgaga accacaggtg 540

tacaccctgc ccccatcccg ggaggagatg accaagaacc aggtcagcct gacctgcctg 600

gtcaaaggct tctaccccag cgacatcgcc gtggagtggg agagcagcgg gcagccggag 660

aacaactaca acaccacgcc tcccatgctg gactccgacg gctccttctt cctctacagc 720

aagctcaccg tggacaagag caggtggcag caggggaaca tcttctcatg ctccgtgatg 780

catgaggctc tgcacaaccg cttcacgcag aagagcctct ccctgtctcc gggtaaa 837

<210> 70
<211> 687
<212> DNA
<213> Homo sapiens

<400> 70
gagtccaaat atggtccccc atgcccatca tgcccagcac ctgagttcct gggggggacca 60

tcagtcttcc tgttcccccc aaaacccaag gacactctca tgatctcccg gacccctgag 120

gtcacgtgcg tggtggtgga cgtgagccag gaagaccccg aggtccagtt caactggtac 180

gtggatggcg tggaggtgca taatgccaag acaaagccgc gggaggagca gttcaacagc 240

acgtaccgtg tggtcagcgt cctcaccgtc ctgcaccagg actggctgaa cggcaaggag 300

tacaagtgca aggtctccaa caaaggcctc ccgtcctcca tcgagaaaac catctccaaa 360

gccaaagggc agccccgaga gccacaggtg tacaccctgc ccccatccca ggaggagatg 420

accaagaacc aggtcagcct gacctgcctg gtcaaaggct tctaccccag cgacatcgcc 480

gtggagtggg agagcaatgg gcagccggag aacaactaca agaccacgcc tcccgtgctg 540

gactccgacg gctccttctt cctctacagc aggctaaccg tggacaagag caggtggcag 600

gaggggaatg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacacag 660

aagagcctct ccctgtctct gggtaaa 687

<210> 71
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 71
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25

<210> 72

<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 72
Gly Gly Gly Gly Ser
1 5