Sequence Listing for filing
SEQUENCE LISTING

<110> University of Washington
Pultz, Ingrid Swanson
Wolf, Clancey
Siegel, Justin Bloomfield
Tinberg, Christine Elaine
Stewart, Lance
Baker, David

<120> Compositions and Methods for Treating Celiac Sprue Disease

<130> 16-415-PCT

<150> 62/172557
<151> 2015-06-08

<160> 156

<170> PatentIn version 3.5

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Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val

145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly

420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

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Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

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Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365
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Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550


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<212>  PRT
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<400>  3

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
```

35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Ala Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly

305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

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<223> Synthetic

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Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255
```

```
Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Ser Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525
```

```
Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
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Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
```

195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Thr Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile

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465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
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Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140
```

```
Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Leu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415
```

```
Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
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<210> 7
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<212> PRT
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<223> Synthetic

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Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
```

85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His

355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 8
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 8

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

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Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Ala Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300
```

```
His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 9
<211> 553
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 9

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
```

245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Thr Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro

515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 10
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 10

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

```
Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Val Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460
```

```
Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 11
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 11

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
```

130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ala Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu

405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 12
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 12

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

```
Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350
```

Asp Ala Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 13
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 13

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys

```
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
```

290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Glu Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 14

<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 14

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240
```

```
Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Gln Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510
```

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 15
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 15

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro

180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Arg Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly

450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 16
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 16

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

```
Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Tyr Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400
```

```
Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 17
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 17

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
```

65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly

340 345 350

Asp Ser Gly Ser Thr Asn Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 18
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 18

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

```
Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285
```

```
Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 19
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 19

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
```

225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gln Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp

500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 20
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 20

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

```
Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Thr Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445
```

```
Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 21
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 21

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
```

115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val Phe
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly

385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 22
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 22

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

```
Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335
```

```
Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val Gln
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 23
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 23

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
```

```
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
```

```
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
```

545 550

<210> 24
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 24

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

```
Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Ser Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495
```

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 25
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 25

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln

165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Gln Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro

435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 26
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 26

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

```
Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380
```

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Gln Gly Gly Ala Ser Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 27
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 27

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala

50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala

325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Gln Gly Gly Ala Ser Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 28
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 28

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Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270
```

```
Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Glu Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540
```

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 29
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 29

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly

210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr

485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 30
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 30

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

```
Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430
```

```
Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Val Asp Gly Glu Ala Thr Val Thr Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 31
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 31

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Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
```

100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu

370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Arg Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 32
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 32

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

```
Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320
```

```
Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ala Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 33
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 33

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Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
```

260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Leu Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu

530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 34
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 34

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

```
Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Met Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480
```

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 35
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 35

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val

145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly

420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Gln Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 36
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 36

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

```
Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365
```

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Arg Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 37
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 37

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg

```
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
```

305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 38
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 38

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255
```

```
Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Val Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525
```

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 39
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 39

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu

195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile

465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 40
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 40

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

```
Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415
```

```
Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 41
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 41

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
```

85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ala Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val Phe

355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 42
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 42

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

```
Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr Val Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300
```

```
His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 43
<211> 581
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 43

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
```

245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro

515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro Gly Ser Ser Gly Ser Ser Gly
545 550 555 560

Ser Gln Pro Gln Leu Pro Tyr Gly Ser Ser Gly Ser Ser Gly Ser His
565 570 575

His His His His His
580

<210> 44
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 44

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

```
Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430
```

```
Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 45
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 45

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
```

100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Ala His Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu

370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 46
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 46

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

```
Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320
```

```
Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 47
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 47

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Ser His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
```

260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu

530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 48
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 48

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro Ala Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

```
Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480
```

```
Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 49
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 49

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
```

145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro Arg Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly

420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 50
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 50

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

```
Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro Ser Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365
```

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 51
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 51

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg

35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Arg Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly

305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 52
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 52

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Ser Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255
```

```
Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525
```

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 53
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 53

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Ser Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu

195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile

```
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550


<210>  54
<211>  553
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic

<400>  54

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140
```

```
Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg Arg Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415
```

```
Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 55
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 55

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                   10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
```

85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg Arg Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His

355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Asp Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 56
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 56

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

```
Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg Arg Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300
```

```
His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 57
<211> 553
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 57

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg Arg Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
```

245 250 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ala Gly
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val Phe
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro

515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 58
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 58

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg Arg Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

```
Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr Val Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Ile Gly
    450                 455                 460
```

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 59
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 59

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu

130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg Arg Phe Arg Met Gln
165 170 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
180 185 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
195 200 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
210 215 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225 230 235 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
245 250 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
260 265 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
275 280 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
290 295 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Met
305 310 315 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
325 330 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
340 345 350

Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu

405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 60
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 60

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

```
Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Arg Arg Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ala Met
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350
```

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val Phe
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 61
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 61

Pro Gln Gln Pro Ile Pro Gln Gln Pro Gln Pro Tyr Pro Gln Gln
1 5 10 15

<210> 62

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

<220>
<223> Synthetic

<400> 62

Gln Pro Phe Pro Gln Gln Pro Glu Gln Ile Ile Pro Gln Gln Pro
1 5 10 15

<210> 63
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 63

Leu Gln Pro Phe Pro Gln Pro Gln Leu Pro Tyr Pro Gln Pro Gln
1 5 10 15

<210> 64
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 64

Gln Pro Phe Pro Gln Pro Gln Gln Pro Phe Pro Trp Gln Pro
1 5 10

<210> 65
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 65

Pro Gln Leu Pro
1

<210> 66
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 66

Pro Gln Gln Pro
1

<210> 67
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 67

Pro Phe Pro Gln Pro Gln Leu Pro Tyr
1 5

<210> 68
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 68

Pro Phe Pro Gln Pro Gln Gln Pro Phe
1 5

<210> 69
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 69

Leu Gln Leu Gln Pro Phe Pro Gln Pro Gln Leu Pro Tyr Pro Gln Pro
1 5 10 15

Gln Leu Pro Tyr Pro Gln Pro Gln Leu Pro Tyr Pro Gln Pro Gln Pro
20 25 30

Phe

<210> 70
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 70

Phe Leu Gln Pro Gln Gln Pro Phe Pro Gln Gln Pro Gln Gln Pro Tyr
1 5 10 15

Pro Gln Gln Pro Gln Gln Pro Phe Pro Gln
20 25

<210> 71
<211> 363
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 71

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln
355 360

<210> 72
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 72

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 73
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 73

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Ala Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 74
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 74

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Ser Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 75
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 75

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Thr Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 76
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 76

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Leu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 77
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 77

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 78
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 78

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Ala Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 79
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 79

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Thr Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 80
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 80

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Val Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 81
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 81

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ala Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 82
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 82

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ala Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 83
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 83

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Glu Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 84
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 84

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Gln Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 85
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 85

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Arg Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 86
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 86

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Tyr Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 87
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 87

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Asn Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 88
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 88

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 89
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 89

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gln Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 90
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 90

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Thr Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 91
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 91

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val Phe Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 92
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 92

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val Gln Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 93
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 93

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 94
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 94

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Ser Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 95
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 95

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Gln Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 96
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 96

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Gln Gly Gly Ala Ser Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 97
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 97

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Gln Gly Gly Ala Ser Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 98
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 98

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Glu Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 99
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 99

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 100
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 100

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Val Asp Gly Glu Ala Thr
            260                 265                 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 101
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 101

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Arg
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 102
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 102

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ala Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 103
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 103

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Leu Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 104
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 104

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Met Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 105
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 105

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Gln Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 106
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 106

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Arg Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 107
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 107

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 108
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 108

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Val Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 109
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 109

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 110
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 110

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 111
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 111

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ala Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val Phe Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 112
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 112

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr
65 70 75 80

Val Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

```
Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360
```

<210> 113
<211> 392
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 113

```
Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
```

225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro Gly Ser Ser Gly
355 360 365

Ser Ser Gly Ser Gln Pro Gln Leu Pro Tyr Gly Ser Ser Gly Ser Ser
370 375 380

Gly Ser His His His His His His
385 390

<210> 114
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 114

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 115
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 115

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp

195 200 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 116
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 116

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 117
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 117

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp

195 200 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 118
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 118

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

```
Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350


Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360


<210>  119
<211>  364
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic

<400>  119

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15


Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30


Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45


Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60


Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80


Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95


Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110


Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125


Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140


Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160


Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175


His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190


Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
```

195 200 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 120
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 120

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 121
<211> 363
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 121

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp

195 200 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln
355 360

<210> 122
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 122

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 123
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 123

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp

195 200 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 124
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 124

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 125
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 125

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp

195 200 205

Asn Asp Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Ala Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 126
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 126

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 127
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 127

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ala Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val Phe Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp

195 200 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 128
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 128

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr
65                  70                  75                  80

Val Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Ile Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

```
Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
            340                 345                 350


Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
        355                 360


<210>  129
<211>  364
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic

<400>  129

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15


Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30


Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45


Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60


Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr
65                  70                  75                  80


Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95


Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110


Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125


Trp Ser Met Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140


Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160


Ala Ala Gly Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175


His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190


Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
```

195 200 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 130
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 130

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

```
Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
            100                 105                 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
        115                 120                 125

Trp Ala Met Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
    130                 135                 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145                 150                 155                 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
                165                 170                 175

His Val Phe Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
            180                 185                 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
        195                 200                 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
    210                 215                 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225                 230                 235                 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
                245                 250                 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
            260                 265                 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
        275                 280                 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
    290                 295                 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305                 310                 315                 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
                325                 330                 335
```

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 131
<211> 60
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (1)..(25)
<223> Xaa is any amino acid

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> Xaa is L or Q

<220>
<221> MISC_FEATURE
<222> (30)..(55)
<223> Xaa is any amino acid

<400> 131

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Gln Xaa Pro Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa His His His His His His
50 55 60

<210> 132
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 132

Gly Ser Ser Gly Ser Ser Gly Ser Gln Pro Gln Leu Pro Tyr Gly Ser
1 5 10 15

Ser Gly Ser Ser Gly Ser His His His His His His
20 25

<210> 133
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 133

Leu Gln Pro Phe Pro Gln Pro Gln Leu Pro Tyr Pro Gln Pro Gln
1 5 10 15

<210> 134
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 134

Gln Pro Phe Pro Gln Pro Gln Gln Pro Phe Pro Trp Gln Pro
1 5 10

<210> 135
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 135

Gln Gln Pro Phe Pro
1 5

<210> 136
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 136

Gln Pro Gln Leu Pro Tyr
1 5

<210> 137
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 137

Leu Pro Tyr Pro Gln Pro Gln Pro Phe

1 5

<210> 138
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 138

Phe Leu Gln Pro Gln
1 5

<210> 139
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 139

Gly Ser Thr Glu Asn Leu Tyr Phe Gln Ser Gly Ala Leu Glu His His
1 5 10 15

His His His His
20

<210> 140
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 140

Pro Phe Gln Pro Gln Leu Pro Tyr
1 5

<210> 141
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 141

Pro Phe Pro Gln Pro Gln Leu Pro Tyr
1 5

<210> 142
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 142

Pro Gln Pro Gln Leu Pro Tyr Pro Gln
1 5

<210> 143
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 143

Pro Phe Pro Gln Pro Gln Gln Pro Phe
1 5

<210> 144
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 144

Pro Gln Pro Gln Gln Pro Phe Pro Trp
1 5

<210> 145
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145

Ile Gln Pro Gln Gln Pro Ala Gln Leu
1 5

<210> 146
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 146

Pro Gln Gln Ser Phe Pro Gln Gln Gln
1 5

<210> 147
<211> 5
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 147

Gln Pro Tyr Pro Gln
1 5

<210> 148
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 148

Pro Phe Pro Gln Pro Gln
1 5

<210> 149
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 149

Glu Asn Leu Tyr Phe Gln Ser
1 5

<210> 150
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 150

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

```
Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Met
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350
```

Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
355 360 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
370 375 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385 390 395 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
405 410 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
420 425 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
435 440 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
450 455 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465 470 475 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
485 490 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
500 505 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 151
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 151

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu

20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Glu Gly Pro Asp Gly Glu Val Thr
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ser Met Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Gln Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
195 200 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro

290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 152
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 152

Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1 5 10 15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
20 25 30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
35 40 45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
50 55 60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65 70 75 80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
85 90 95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
100 105 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
115 120 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
130 135 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145 150 155 160

```
Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240

Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ala Met
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr His Val Phe
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430
```

```
Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
        515                 520                 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
    530                 535                 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545                 550
```

<210> 153
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 153

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Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1               5                   10                  15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
            20                  25                  30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
        35                  40                  45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
    50                  55                  60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Thr
65                  70                  75                  80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
                85                  90                  95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
```

100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ala Met Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Gly Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val Phe Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly
180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
195 200 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 154

<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 154

```
Met Ser Asp Met Glu Lys Pro Trp Lys Glu Gly Glu Glu Ala Arg Ala
1               5                  10                  15

Val Leu Gln Gly His Ala Arg Ala Gln Ala Pro Gln Ala Val Asp Lys
            20                  25                  30

Gly Pro Val Ala Gly Asp Glu Arg Met Ala Val Thr Val Val Leu Arg
        35                  40                  45

Arg Gln Arg Ala Gly Glu Leu Ala Ala His Val Glu Arg Gln Ala Ala
    50                  55                  60

Ile Ala Pro His Ala Arg Glu His Leu Lys Arg Glu Ala Phe Ala Ala
65                  70                  75                  80

Ser His Gly Ala Ser Leu Asp Asp Phe Ala Glu Leu Arg Arg Phe Ala
                85                  90                  95

Asp Ala His Gly Leu Ala Leu Asp Arg Ala Asn Val Ala Ala Gly Thr
            100                 105                 110

Ala Val Leu Ser Gly Pro Asp Asp Ala Ile Asn Arg Ala Phe Gly Val
        115                 120                 125

Glu Leu Arg His Phe Asp His Pro Asp Gly Ser Tyr Arg Ser Tyr Leu
    130                 135                 140

Gly Glu Val Thr Val Pro Ala Ser Ile Ala Pro Met Ile Glu Ala Val
145                 150                 155                 160

Leu Gly Leu Asp Thr Arg Pro Val Ala Arg Pro His Phe Arg Met Gln
                165                 170                 175

Arg Arg Ala Glu Gly Gly Phe Glu Ala Arg Ser Gln Ala Ala Ala Pro
            180                 185                 190

Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln Phe Pro Glu
        195                 200                 205

Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu Leu Gly Gly
    210                 215                 220

Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser Leu Gly Val
225                 230                 235                 240
```

```
Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala Ser Asn Gln
                245                 250                 255

Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu Leu Asp Ile
            260                 265                 270

Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala Val Tyr Phe
        275                 280                 285

Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr Thr Ala Ile
    290                 295                 300

His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser Trp Ser Gly
305                 310                 315                 320

Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met Asn Arg Ala
                325                 330                 335

Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala Ala Ala Gly
            340                 345                 350

Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr His Val His
        355                 360                 365

Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly Thr Arg Leu
    370                 375                 380

Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp Asn Gln Gly
385                 390                 395                 400

Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile Phe Pro Leu
                405                 410                 415

Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala Asn Pro Gly
            420                 425                 430

Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn Ala Asp Pro
        435                 440                 445

Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr Val Thr Gly
    450                 455                 460

Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val Ala Arg Ile
465                 470                 475                 480

Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro Thr Leu Tyr
                485                 490                 495

Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly Asn Asn Asp
            500                 505                 510
```

Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly Trp Asp Pro
515 520 525

Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu Gln Ala Leu
530 535 540

Leu Pro Ser Ala Ser Gln Pro Gln Pro
545 550

<210> 155
<211> 364
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 155

Ala Ala Pro Thr Ala Tyr Thr Pro Leu Asp Val Ala Gln Ala Tyr Gln
1 5 10 15

Phe Pro Glu Gly Leu Asp Gly Gln Gly Gln Cys Ile Ala Ile Ile Glu
20 25 30

Leu Gly Gly Gly Tyr Asp Glu Ala Ser Leu Ala Gln Tyr Phe Ala Ser
35 40 45

Leu Gly Val Pro Ala Pro Gln Val Val Ser Val Ser Val Asp Gly Ala
50 55 60

Ser Asn Gln Pro Thr Gly Asp Pro Lys Gly Pro Asp Gly Glu Val Glu
65 70 75 80

Leu Asp Ile Glu Val Ala Gly Ala Leu Ala Pro Gly Ala Lys Phe Ala
85 90 95

Val Tyr Phe Ala Pro Asp Thr Thr Ala Gly Phe Leu Asp Ala Ile Thr
100 105 110

Thr Ala Ile His Asp Pro Thr Leu Lys Pro Ser Val Val Ser Ile Ser
115 120 125

Trp Ser Gly Pro Glu Asp Ser Trp Thr Ser Ala Ala Ile Ala Ala Met
130 135 140

Asn Arg Ala Phe Leu Asp Ala Ala Ala Leu Gly Val Thr Val Leu Ala
145 150 155 160

Ala Ala Gly Asp Ser Gly Ser Thr Ser Gly Glu Gln Asp Gly Leu Tyr
165 170 175

His Val His Phe Pro Ala Ala Ser Pro Tyr Val Leu Ala Cys Gly Gly

180 185 190

Thr Arg Leu Val Ala Ser Gly Gly Arg Ile Ala Gln Glu Thr Val Trp
195 200 205

Asn Gln Gly Pro Asp Gly Gly Ala Thr Gly Gly Gly Val Ser Arg Ile
210 215 220

Phe Pro Leu Pro Ala Trp Gln Glu His Ala Asn Val Pro Pro Ser Ala
225 230 235 240

Asn Pro Gly Ala Ser Ser Gly Arg Gly Val Pro Asp Leu Ala Gly Asn
245 250 255

Ala Asp Pro Gln Thr Gly Tyr Glu Val Val Ile Asp Gly Glu Ala Thr
260 265 270

Val Thr Gly Gly Thr Ser Ala Val Ala Pro Leu Phe Ala Ala Leu Val
275 280 285

Ala Arg Ile Asn Gln Lys Leu Gly Lys Ala Val Gly Tyr Leu Asn Pro
290 295 300

Thr Leu Tyr Gln Leu Pro Ala Asp Val Phe His Asp Ile Thr Glu Gly
305 310 315 320

Asn Asn Asp Ile Ala Asn Arg Ala Gln Ile Tyr Gln Ala Gly Pro Gly
325 330 335

Trp Asp Pro Cys Thr Gly Leu Gly Ser Pro Ile Gly Val Arg Leu Leu
340 345 350

Gln Ala Leu Leu Pro Ser Ala Ser Gln Pro Gln Pro
355 360

<210> 156
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 156

Pro Gln Pro Gln Leu Pro
1 5