

SEQUENCE LISTING

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<150> CN202110436970.6

<151> 2021-04-22

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<160> 93

<170> PatentIn version 3.5

<210> 1

<211> 549

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 1

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ser Ile Tyr Pro Ser Gly Gly Ile Thr Phe Tyr Ala Asp Thr Val
50 55 60

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

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

Ala Arg Ile Lys Leu Gly Thr Val Thr Thr Val Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys
130 135 140

Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr
145 150 155 160

Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg
165 170 175

Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr
180 185 190

Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro
195 200 205

Ala Leu Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala
210 215 220

Gly Val Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro
225 230 235 240

Ala Ala Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala
245 250 255

Ile Val Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly
260 265 270

Thr Thr Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln
275 280 285

Thr Thr Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro
 290 295 300

Pro Gly Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Arg Gly
 305 310 315 320

Pro Thr Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu
 325 330 335

Leu Gly Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val
 340 345 350

Leu Met Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val
 355 360 365

Ser Glu Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val
 370 375 380

Glu Val His Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser
 385 390 395 400

Thr Leu Arg Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met
 405 410 415

Ser Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala
 420 425 430

Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro
 435 440 445

Gln Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln
 450 455 460

Val Thr Leu Trp Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr
 465 470 475 480

Val Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Asp Asn Thr
 485 490 495

Glu Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Asp Leu

500

505

510

Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser
 515 520 525

Val Val His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser
 530 535 540

Arg Thr Pro Gly Lys
 545

<210> 2

<211> 245

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 2

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
 20 25 30

Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
 35 40 45

Met Ile Tyr Asp Val Ser Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
 50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Thr Ser Ser
 85 90 95

Ser Thr Arg Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu
130 135 140

Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser
145 150 155 160

Asp Val His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu
165 170 175

Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asp
180 185 190

Thr Val Glu Asn Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn
195 200 205

Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu
210 215 220

Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met
225 230 235 240

Phe Ile Asn Thr Ser
245

<210> 3
<211> 445
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 3

Gln Val Gln Leu Glu Ser Glu Gly Gly Leu Phe Lys Pro Thr Asp Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Ser Leu Ser Ser Ser Tyr
20 25 30

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

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

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

Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ala Lys Thr Thr Ala Pro Ser Val Tyr Pro Leu Ala Pro
115 120 125

Val Cys Gly Asp Thr Thr Gly Ser Ser Val Thr Leu Gly Cys Leu Val
130 135 140

Lys Gly Tyr Phe Pro Glu Pro Val Thr Leu Thr Trp Asn Ser Gly Ser
145 150 155 160

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

Tyr Thr Leu Ser Ser Ser Val Thr Val Thr Ser Ser Thr Trp Pro Ser
180 185 190

Gln Ser Ile Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val
195 200 205

Asp Lys Lys Ile Glu Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro Pro
210 215 220

Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile
245 250 255

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

Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala Gln Thr Gln
275 280 285

Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val Val Ser Ala Leu
290 295 300

Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys
305 310 315 320

Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys
325 330 335

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

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

Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys
370 375 380

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

Ser Tyr Phe Met Ala Ser Lys Leu Arg Val Glu Lys Lys Asn Trp Val
405 410 415

Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu Gly Leu His Asn
420 425 430

His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly Lys
435 440 445

<210> 4

<211> 217
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 4

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val Gly Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys Arg Thr
100 105 110

Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu
115 120 125

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

Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn
145 150 155 160

Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr
165 170 175

Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His
180 185 190

Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile
195 200 205

Val Lys Ser Phe Asn Arg Asn Glu Cys
210 215

<210> 5
<211> 544
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 5

Gln Val Gln Leu Glu Ser Glu Gly Gly Leu Phe Lys Pro Thr Asp Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Ser Leu Ser Ser Ser Tyr
20 25 30

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

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

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

Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro Pro Met Ser
 130 135 140

Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu Tyr Ser Arg
 145 150 155 160

Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala Gly Thr Ser
 165 170 175

Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val Ala His Trp
 180 185 190

Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu Val His Gln
 195 200 205

Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val Thr Pro Gln
 210 215 220

Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala Ser Ser Pro
 225 230 235 240

Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val Pro Gly Ser
 245 250 255

Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr Glu Ile Ser
 260 265 270

Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr Ala Lys Asn
 275 280 285

Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly Val Tyr Pro
 290 295 300

Gln Gly His Ser Asp Thr Thr Glu Pro Arg Gly Pro Thr Ile Lys Pro
 305 310 315 320

Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser
 325 330 335

Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu
340 345 350

Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp Pro
355 360 365

Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala
370 375 380

Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val Val
385 390 395 400

Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe
405 410 415

Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr
420 425 430

Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val Leu
435 440 445

Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Trp Cys
450 455 460

Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn
465 470 475 480

Asn Gly Lys Thr Glu Leu Asn Tyr Asp Asn Thr Glu Pro Val Leu Asp
485 490 495

Ser Asp Gly Ser Tyr Phe Met Tyr Ser Asp Leu Arg Val Glu Lys Lys
500 505 510

Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu Gly
515 520 525

Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly Lys
530 535 540

<210> 6

<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 6

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val Gly Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys Gly Gly
100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu
130 135 140

Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser
145 150 155 160

Asp Val His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu
165 170 175

Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asp
180 185 190

Thr Val Glu Asn Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn
195 200 205

Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu
210 215 220

Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met
225 230 235 240

Phe Ile Asn Thr Ser
245

<210> 7
<211> 450
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 7

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ser Ile Tyr Pro Ser Gly Gly Ile Thr Phe Tyr Ala Asp Thr Val
50 55 60

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

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

Ala Arg Ile Lys Leu Gly Thr Val Thr Thr Val Asp Tyr Trp Gly Gln
100 105 110

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

Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr Thr Gly Ser Ser Val Thr
130 135 140

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

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

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

Ser Thr Trp Pro Ser Gln Ser Ile Thr Cys Asn Val Ala His Pro Ala
195 200 205

Ser Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg Gly Pro Thr Ile
210 215 220

Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly
225 230 235 240

Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile
245 250 255

Ser Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp
260 265 270

Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His
275 280 285

Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg
290 295 300

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

Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu
 325 330 335

Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr
 340 345 350

Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu
 355 360 365

Thr Cys Arg Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp
 370 375 380

Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val
 385 390 395 400

Leu Lys Ser Asp Gly Ser Tyr Phe Met Ala Ser Lys Leu Arg Val Glu
 405 410 415

Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His
 420 425 430

Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro
 435 440 445

Gly Lys
 450

<210> 8
 <211> 217
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 8

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
20 25 30

Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Ser Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Thr Ser Ser
85 90 95

Ser Thr Arg Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Arg Thr
100 105 110

Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu
115 120 125

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

Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn
145 150 155 160

Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr
165 170 175

Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His
180 185 190

Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile
195 200 205

Val Lys Ser Phe Asn Arg Asn Glu Cys
210 215

<210> 9
<211> 483
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 9

Gln Val Gln Leu Glu Ser Glu Gly Gly Leu Phe Lys Pro Thr Asp Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Ser Leu Ser Ser Ser Tyr
20 25 30

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

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

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

Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Gly Asn Trp Val Asn Val Ile Ser Asp
130 135 140

Leu Lys Lys Ile Glu Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr
145 150 155 160

Leu Tyr Thr Glu Ser Asp Val His Pro Ser Cys Lys Val Thr Ala Met
165 170 175

Lys Cys Phe Leu Leu Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp
180 185 190

Ala Ser Ile His Asp Thr Val Glu Asn Leu Ile Ile Leu Ala Asn Asn
195 200 205

Ser Leu Ser Ser Asn Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys
210 215 220

Glu Glu Leu Glu Glu Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val
225 230 235 240

His Ile Val Gln Met Phe Ile Asn Thr Ser Glu Pro Arg Gly Pro Thr
245 250 255

Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly
260 265 270

Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met
275 280 285

Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu
290 295 300

Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val
305 310 315 320

His Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu
325 330 335

Arg Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly
340 345 350

Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile
355 360 365

Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val
370 375 380

Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr
 385 390 395 400

Leu Trp Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu
 405 410 415

Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Asp Asn Thr Glu Pro
 420 425 430

Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Asp Leu Arg Val
 435 440 445

Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val
 450 455 460

His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr
 465 470 475 480

Pro Gly Lys

<210> 10
 <211> 306
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 10

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
 1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
 35 40 45

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val Gly Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys Gly Gly
100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Ile Thr Cys Pro Pro Pro Met Ser Val Glu His Ala Asp
130 135 140

Ile Trp Val Lys Ser Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys
145 150 155 160

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

Val Leu Asn Lys Ala Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu
180 185 190

Lys Cys Ile Arg Asp Pro Ala Leu Val His Gln Arg Pro Ala Pro Pro
195 200 205

Ser Thr Val Thr Thr Ala Gly Val Thr Pro Gln Pro Glu Ser Leu Ser
210 215 220

Pro Ser Gly Lys Glu Pro Ala Ala Ser Ser Pro Ser Ser Asn Asn Thr
225 230 235 240

Ala Ala Thr Thr Ala Ala Ile Val Pro Gly Ser Gln Leu Met Pro Ser
245 250 255

Lys Ser Pro Ser Thr Gly Thr Thr Glu Ile Ser Ser His Glu Ser Ser
260 265 270

His Gly Thr Pro Ser Gln Thr Thr Ala Lys Asn Trp Glu Leu Thr Ala
 275 280 285

Ser Ala Ser His Gln Pro Pro Gly Val Tyr Pro Gln Gly His Ser Asp
 290 295 300

Thr Thr
 305

<210> 11
 <211> 544
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 11

Gln Val Gln Leu Glu Ser Glu Gly Gly Leu Phe Lys Pro Thr Asp Thr
 1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Ser Leu Ser Ser Ser Tyr
 20 25 30

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

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
 50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
 65 70 75 80

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

Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
 115 120 125

Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro Pro Met Ser
130 135 140

Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu Tyr Ser Arg
145 150 155 160

Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala Gly Thr Cys
165 170 175

Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val Ala His Trp
180 185 190

Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu Val His Gln
195 200 205

Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val Thr Pro Gln
210 215 220

Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala Ser Ser Pro
225 230 235 240

Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val Pro Gly Ser
245 250 255

Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr Glu Ile Ser
260 265 270

Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr Ala Lys Asn
275 280 285

Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly Val Tyr Pro
290 295 300

Gln Gly His Ser Asp Thr Thr Glu Pro Arg Gly Pro Thr Ile Lys Pro
305 310 315 320

Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser
325 330 335

Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu
340 345 350

Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp Pro
355 360 365

Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala
370 375 380

Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val Val
385 390 395 400

Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe
405 410 415

Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr
420 425 430

Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val Leu
435 440 445

Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Trp Cys
450 455 460

Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn
465 470 475 480

Asn Gly Lys Thr Glu Leu Asn Tyr Asp Asn Thr Glu Pro Val Leu Asp
485 490 495

Ser Asp Gly Ser Tyr Phe Met Tyr Ser Asp Leu Arg Val Glu Lys Lys
500 505 510

Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu Gly
515 520 525

Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly Lys
530 535 540

<210> 12

<211> 242
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 12

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile
130 135 140

Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His
145 150 155 160

Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu Gln
165 170 175

Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asn Thr Val Gln
180 185 190

Asp Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn Val
195 200 205

Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Cys Lys Asn Ile
210 215 220

Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile Asn
225 230 235 240

Thr Ser

<210> 13
<211> 544
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 13

Gln Val Gln Leu Glu Ser Glu Gly Gly Leu Phe Lys Pro Thr Asp Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Ser Leu Ser Ser Ser Tyr
20 25 30

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

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

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

Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro Pro Met Ser
130 135 140

Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu Tyr Ser Arg
145 150 155 160

Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala Gly Thr Ser
165 170 175

Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val Ala His Trp
180 185 190

Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu Val His Gln
195 200 205

Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val Thr Pro Gln
210 215 220

Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala Ser Ser Pro
225 230 235 240

Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val Pro Gly Ser
245 250 255

Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr Glu Ile Ser
260 265 270

Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr Ala Lys Asn
275 280 285

Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly Val Tyr Pro
290 295 300

Gln Gly His Ser Asp Thr Thr Glu Pro Arg Gly Pro Thr Ile Lys Pro
 305 310 315 320

Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser
 325 330 335

Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu
 340 345 350

Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp Pro
 355 360 365

Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala
 370 375 380

Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val Val
 385 390 395 400

Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe
 405 410 415

Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr
 420 425 430

Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val Leu
 435 440 445

Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Trp Cys
 450 455 460

Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn
 465 470 475 480

Asn Gly Lys Thr Glu Leu Asn Tyr Asp Asn Thr Glu Pro Val Leu Asp
 485 490 495

Ser Asp Gly Ser Tyr Phe Met Tyr Ser Asp Leu Arg Val Glu Lys Lys
 500 505 510

Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu Gly

515

520

525

Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly Lys
 530 535 540

<210> 14

<211> 245

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 14

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
 1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
 35 40 45

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
 65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val Gly Asn
 85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
 115 120 125

Gly Ser Gly Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu
 130 135 140

Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser
 145 150 155 160

Asp Val His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu
 165 170 175

Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asp
 180 185 190

Thr Val Glu Asn Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn
 195 200 205

Gly Asn Val Thr Glu Ser Gly Cys Lys Cys Cys Glu Glu Leu Glu Glu
 210 215 220

Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met
 225 230 235 240

Phe Ile Asn Thr Ser
 245

<210> 15
 <211> 245
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 15

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
 1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
 35 40 45

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val Gly Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys Gly Gly
100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu
130 135 140

Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser
145 150 155 160

Asp Val His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu
165 170 175

Glu Leu Gln Val Ile Ser Cys Glu Ser Gly Asp Ala Ser Ile His Asp
180 185 190

Thr Val Glu Asn Leu Ile Ile Leu Ala Gln Asn Ser Leu Ser Ser Asn
195 200 205

Gly Gln Val Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu
210 215 220

Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met
225 230 235 240

Phe Ile Gln Thr Ser
245

<210> 16
<211> 245
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthesized

<400> 16

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val Gly Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys Gly Gly
100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu
130 135 140

Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser
145 150 155 160

Asp Val His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu
165 170 175

Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asn
180 185 190

Thr Val Gln Asp Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn
195 200 205

Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu
210 215 220

Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met
225 230 235 240

Phe Ile Asn Thr Ser
245

<210> 17
<211> 477
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 17

Gln Val Gln Leu Glu Ser Glu Gly Gly Leu Phe Lys Pro Thr Asp Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Ser Leu Ser Ser Ser Tyr
20 25 30

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

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

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

Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala
130 135 140

Val Gly Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser
145 150 155 160

Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
165 170 175

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

Ser Gly Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val
195 200 205

Glu Ser Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val
210 215 220

Gly Asn Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
225 230 235 240

Gly Ala Ala Ala Glu Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro Pro
245 250 255

Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile
260 265 270

Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile
275 280 285

Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp Pro Asp Val Gln
290 295 300

Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala Gln Thr Gln
305 310 315 320

Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val Val Ser Ala Leu
325 330 335

Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys
340 345 350

Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys
355 360 365

Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val Leu Pro Pro Pro
370 375 380

Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Trp Cys Met Val Thr
385 390 395 400

Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys
405 410 415

Thr Glu Leu Asn Tyr Asp Asn Thr Glu Pro Val Leu Asp Ser Asp Gly
420 425 430

Ser Tyr Phe Met Tyr Ser Asp Leu Arg Val Glu Lys Lys Asn Trp Val
435 440 445

Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu Gly Leu His Asn
450 455 460

His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly Lys
465 470 475

<210> 18
<211> 456
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 18

Gln Val Gln Leu Glu Ser Glu Gly Gly Leu Phe Lys Pro Thr Asp Thr
1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ser Ser Leu Ser Ser Ser Tyr
20 25 30

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

Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asn Trp Ala Lys Gly
50 55 60

Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr Val Glu Leu Lys Ile Thr
65 70 75 80

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

Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly Pro Gly Thr Leu Val Thr
100 105 110

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

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

Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp
145 150 155 160

Gly Ser Glu Arg Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp
165 170 175

Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys
180 185 190

Asp Glu Tyr Glu Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys
195 200 205

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

Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala
 225 230 235 240

Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile
 245 250 255

Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val
 260 265 270

Val Asp Val Ser Glu Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val
 275 280 285

Asn Asn Val Glu Val His Thr Ala Gln Thr Gln Thr His Arg Glu Asp
 290 295 300

Tyr Asn Ser Thr Leu Arg Val Val Ser Ala Leu Pro Ile Gln His Gln
 305 310 315 320

Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp
 325 330 335

Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val
 340 345 350

Arg Ala Pro Gln Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr
 355 360 365

Lys Lys Gln Val Thr Leu Trp Cys Met Val Thr Asp Phe Met Pro Glu
 370 375 380

Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr
 385 390 395 400

Asp Asn Thr Glu Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr
 405 410 415

Ser Asp Leu Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr
 420 425 430

Ser Cys Ser Val Val His Glu Gly Leu His Asn His His Thr Thr Lys
435 440 445

Ser Phe Ser Arg Thr Pro Gly Lys
450 455

<210> 19
<211> 207
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 19

Asp Ile Val Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
35 40 45

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Gly Val Glu Ser
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Glu His Ser Val Gly Asn
85 90 95

Val Asp Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys Ala Lys
100 105 110

Thr Thr Ala Pro Ser Val Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr
115 120 125

Thr Gly Ser Ser Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro
130 135 140

Glu Pro Val Thr Leu Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val
 145 150 155 160

His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser
 165 170 175

Ser Val Thr Val Thr Ser Ser Thr Trp Pro Ser Gln Ser Ile Thr Cys
 180 185 190

Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile
 195 200 205

<210> 20
 <211> 710
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 20

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

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

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

Ser Ser Ile Tyr Pro Ser Gly Gly Ile Thr Phe Tyr Ala Asp Thr Val
 50 55 60

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

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

Ala Arg Ile Lys Leu Gly Thr Val Thr Thr Val Asp Tyr Trp Gly Gln
 100 105 110

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

Tyr Pro Leu Ala Pro Val Cys Gly Asp Thr Thr Gly Ser Ser Val Thr
130 135 140

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

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

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

Ser Thr Trp Pro Ser Gln Ser Ile Thr Cys Asn Val Ala His Pro Ala
195 200 205

Ser Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg Gly Pro Thr Ile
210 215 220

Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly
225 230 235 240

Pro Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile
245 250 255

Ser Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp
260 265 270

Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His
275 280 285

Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg
290 295 300

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

Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu
325 330 335

Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr
340 345 350

Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu
355 360 365

Thr Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp
370 375 380

Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val
385 390 395 400

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

Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His
420 425 430

Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro
435 440 445

Gly Ala Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
450 455 460

Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Glu Ser Glu Gly Gly Leu
465 470 475 480

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

Ser Leu Ser Ser Ser Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Lys
500 505 510

Gly Leu Glu Trp Ile Gly Ile Ile Gly Ser Asn Gly Asn Thr Tyr Tyr
515 520 525

Ala Asn Trp Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Thr Thr
530 535 540

Val Glu Leu Lys Ile Thr Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr
545 550 555 560

Phe Cys Ala Arg Gly Gly Tyr Arg Thr Ser Gly Met Asp Pro Trp Gly
565 570 575

Pro Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
580 585 590

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Thr Pro
595 600 605

Ala Ser Val Glu Val Ala Val Gly Gly Thr Val Thr Ile Lys Cys Gln
610 615 620

Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro
625 630 635 640

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Leu Lys Leu Ala Ser
645 650 655

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Tyr Thr
660 665 670

Leu Thr Ile Ser Gly Val Glu Ser Ala Asp Ala Ala Thr Tyr Tyr Cys
675 680 685

Gln Gln Glu His Ser Val Gly Asn Val Asp Asn Val Phe Gly Gly Gly
690 695 700

Thr Glu Val Val Val Lys
705 710

<210> 21
<211> 133
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthesized

<400> 21

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

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

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 22

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 22

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

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

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
165 170 175

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

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
195 200 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln
210 215

<210> 23
 <211> 166
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 23

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
 1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
 20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
 35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
 50 55 60

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

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
 85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
 100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
 115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
 130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
 145 150 155 160

Leu Ile Cys Thr Gly Glu
 165

<210> 24
<211> 223
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 24

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
35 40 45

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
50 55 60

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
65 70 75 80

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
85 90 95

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
100 105 110

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
115 120 125

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
130 135 140

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
145 150 155 160

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu

165

170

175

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
 180 185 190

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
 195 200 205

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser
 210 215 220

<210> 25

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 25

Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile
 1 5 10 15

Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His
 20 25 30

Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu Gln
 35 40 45

Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asp Thr Val Glu
 50 55 60

Asn Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn Val
 65 70 75 80

Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn Ile
 85 90 95

Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile Asn
 100 105 110

Thr Ser

<210> 26
<211> 175
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 26

Ile Thr Cys Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val
1 5 10 15

Lys Ser Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly
20 25 30

Phe Lys Arg Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn
35 40 45

Lys Ala Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile
50 55 60

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

Thr Thr Ala Gly Val Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly
85 90 95

Lys Glu Pro Ala Ala Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr
100 105 110

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

Ser Thr Gly Thr Thr Glu Ile Ser Ser His Glu Ser Ser His Gly Thr
130 135 140

Pro Ser Gln Thr Thr Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser
145 150 155 160

His Gln Pro Pro Gly Val Tyr Pro Gln Gly His Ser Asp Thr Thr
165 170 175

<210> 27
<211> 77
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 27

Ile Thr Cys Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val
1 5 10 15

Lys Ser Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly
20 25 30

Phe Lys Arg Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn
35 40 45

Lys Ala Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile
50 55 60

Arg Asp Pro Ala Leu Val His Gln Arg Pro Ala Pro Pro
65 70 75

<210> 28
<211> 65
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 28

Ile Thr Cys Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val
1 5 10 15

Lys Ser Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly
20 25 30

Phe Lys Arg Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn
35 40 45

Lys Ala Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile
50 55 60

Arg
65

<210> 29
<211> 73
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 29

Ile Thr Cys Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val
1 5 10 15

Lys Ser Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly
20 25 30

Phe Lys Arg Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn
35 40 45

Lys Ala Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile
50 55 60

Arg Asp Pro Ala Leu Val His Gln Arg
65 70

<210> 30
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 30

Ile Thr Cys Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val

1	5	10	15
Lys Ser Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly	20	25	30
Phe Lys Arg Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn	35	40	45
Lys Ala Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile	50	55	60
Arg Asp Pro Ala Leu Val His Gln Arg Pro Ala Pro Pro Ser Thr Val	65	70	75
Thr Thr Ala Gly Val Thr	85		

<210> 31
 <211> 102
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 31

Ile Thr Cys Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val	1	5	10	15
Lys Ser Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly	20	25	30	
Phe Lys Arg Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn	35	40	45	
Lys Ala Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile	50	55	60	
Arg Asp Pro Ala Leu Val His Gln Arg Pro Ala Pro Pro Ser Thr Val	65	70	75	80

Thr Thr Ala Gly Val Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly
85 90 95

Lys Glu Pro Ala Ala Ser
100

<210> 32
<211> 536
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 32

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
 145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
 165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
 180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
 195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
 210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
 225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
 245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
 260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
 275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
 290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 33
<211> 261
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthesized

<400> 33

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
130 135 140

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
145 150 155 160

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
165 170 175

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
180 185 190

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

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
210 215 220

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
225 230 235 240

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
245 250 255

Ile Ser Thr Leu Thr
260

<210> 34
<211> 449
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 34

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Ser Gly
20 25 30

Tyr Trp Asn Trp Ile Arg Lys Pro Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

Gly Tyr Ile Ser Tyr Thr Gly Ser Thr Tyr Gln Asn Pro Ser Leu Lys
50 55 60

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

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Thr Tyr Tyr Cys Ala
85 90 95

Arg Ser Arg Ala Trp Ile Arg Thr Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

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

Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu
130 135 140

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

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

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

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
195 200 205

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

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
225 230 235 240

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

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

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

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

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

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

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

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

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

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

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

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

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

Lys

<210> 35
 <211> 215
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 35

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Ser Val Ser Ser Ser Ile Ser Ser Ser
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu
65 70 75 80

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

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

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

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

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

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

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

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

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 36
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 36

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ser Ser Ile Tyr Pro Ser Gly Gly Ile Thr Phe Tyr Ala Asp Thr Val
50 55 60

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

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

Ala Arg Ile Lys Leu Gly Thr Val Thr Thr Val Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 37
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 37

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln

1	5	10	15
Ser Ile Thr	Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr		
	20	25	30
Asn Tyr Val	Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu		
	35	40	45
Met Ile Tyr	Asp Val Ser Asn Arg Pro Ser Gly Val Ser Asn Arg Phe		
	50	55	60
Ser Gly Ser	Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu		
65	70	75	80
Gln Ala Glu	Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Thr Ser Ser		
	85	90	95
Ser Thr Arg	Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu		
	100	105	110

<210> 38
 <211> 563
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 38

Glu Pro Arg	Gly Pro Thr Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro
1	5 10 15
Ala Pro Asn	Leu Leu Gly Gly Pro Ser Val Phe Ile Phe Pro Pro Lys
	20 25 30
Ile Lys Asp	Val Leu Met Ile Ser Leu Ser Pro Ile Val Thr Cys Val
	35 40 45
Val Val Asp	Val Ser Glu Asp Asp Pro Asp Val Gln Ile Ser Trp Phe
	50 55 60

Val Asn Asn Val Glu Val His Thr Ala Gln Thr Gln Thr His Arg Glu
65 70 75 80

Asp Tyr Asn Ser Thr Leu Arg Val Val Ser Ala Leu Pro Ile Gln His
85 90 95

Gln Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys
100 105 110

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

Val Arg Ala Pro Gln Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met
130 135 140

Thr Lys Lys Gln Val Thr Leu Thr Cys Met Val Thr Asp Phe Met Pro
145 150 155 160

Glu Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn
165 170 175

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

Tyr Ser Lys Leu Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser
195 200 205

Tyr Ser Cys Ser Val Val His Glu Gly Leu His Asn His His Thr Thr
210 215 220

Lys Ser Phe Ser Arg Thr Pro Gly Ala Gly Gly Gly Gly Ser Gly Gly
225 230 235 240

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr
245 250 255

Cys Pro Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser
260 265 270

Tyr Ser Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys

275

280

285

Arg Lys Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala
 290 295 300

Thr Asn Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp
 305 310 315 320

Pro Ala Leu Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr
 325 330 335

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

Pro Ala Ala Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala
 355 360 365

Ala Ile Val Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr
 370 375 380

Gly Thr Thr Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser
 385 390 395 400

Gln Thr Thr Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln
 405 410 415

Pro Pro Gly Val Tyr Pro Gln Gly His Ser Asp Thr Thr Ser Gly Gly
 420 425 430

Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Leu
 435 440 445

Gln Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu
 450 455 460

Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val
 465 470 475 480

His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu
 485 490 495

Gln Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asp Thr Val
500 505 510

Glu Asn Leu Ile Ile Leu Ala Asn Asp Ser Leu Ser Ser Asn Gly Asn
515 520 525

Val Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn
530 535 540

Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile
545 550 555 560

Asn Thr Ser

<210> 39
<211> 504
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 39

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

85

90

95

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ala Pro Thr Ser Ser
 130 135 140

Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu
 145 150 155 160

Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr
 165 170 175

Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu
 180 185 190

Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val
 195 200 205

Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu
 210 215 220

Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr
 225 230 235 240

Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe
 245 250 255

Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
 260 265 270

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 275 280 285

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 290 295 300

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

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
325 330 335

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
340 345 350

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
355 360 365

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
370 375 380

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

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

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
420 425 430

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

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
450 455 460

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

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
485 490 495

Ser Leu Ser Leu Ser Pro Gly Lys
500

<210> 40
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 40

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
130 135 140

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
145 150 155 160

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
165 170 175

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
180 185 190

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
195 200 205

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
210 215 220

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
225 230 235 240

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
245 250 255

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
260 265 270

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
275 280 285

Leu Ile Cys Thr Gly
290

<210> 41
<211> 511
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 41

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile

35

40

45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Thr Gln Ser Thr His
 130 135 140

Glu Ser Leu Lys Pro Gln Arg Val Gln Phe Gln Ser Arg Asn Phe His
 145 150 155 160

Asn Ile Leu Gln Trp Gln Pro Gly Arg Ala Leu Thr Gly Asn Ser Ser
 165 170 175

Val Tyr Phe Val Gln Tyr Lys Ile Met Phe Ser Cys Ser Met Lys Ser
 180 185 190

Ser His Gln Lys Pro Ser Gly Cys Trp Gln His Ile Ser Cys Asn Phe
 195 200 205

Pro Gly Cys Arg Thr Leu Ala Lys Tyr Gly Gln Arg Gln Trp Lys Asn
 210 215 220

Lys Glu Asp Cys Trp Gly Thr Gln Glu Leu Ser Cys Asp Leu Thr Ser
 225 230 235 240

Glu Thr Ser Asp Ile Gln Glu Pro Tyr Tyr Gly Arg Val Arg Ala Ala
 245 250 255

Ser Ala Gly Ser Tyr Ser Glu Trp Ser Met Thr Pro Arg Phe Thr Pro
260 265 270

Trp Trp Glu Thr Lys Ile Asp Glu Pro Lys Ser Ser Asp Lys Thr His
275 280 285

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
290 295 300

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

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

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

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
355 360 365

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

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

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

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

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

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Lys Ser
450 455 460

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

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

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

<210> 42
 <211> 274
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 42

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
 35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
 100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Ala Pro Ile Ser Ser His Cys Arg Leu Asp Lys Ser Asn Phe Gln Gln
130 135 140

Pro Tyr Ile Thr Asn Arg Thr Phe Met Leu Ala Lys Glu Ala Ser Leu
145 150 155 160

Ala Asp Asn Asn Thr Asp Val Arg Leu Ile Gly Glu Lys Leu Phe His
165 170 175

Gly Val Ser Met Ser Glu Arg Cys Tyr Leu Met Lys Gln Val Leu Asn
180 185 190

Phe Thr Leu Glu Glu Val Leu Phe Pro Gln Ser Asp Arg Phe Gln Pro
195 200 205

Tyr Met Gln Glu Val Val Pro Phe Leu Ala Arg Leu Ser Asn Arg Leu
210 215 220

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

Gln Lys Leu Lys Asp Thr Val Lys Lys Leu Gly Glu Ser Gly Glu Ile
245 250 255

Lys Ala Ile Gly Glu Leu Asp Leu Leu Phe Met Ser Leu Arg Asn Ala
260 265 270

Cys Ile

<210> 43

<211> 418

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 43

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser

1		5		10		15	
Ser	Val	Lys	Val	Ser	Cys	Lys	Ala
		20					25
Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr
				30			
Trp	Met	Asn	Trp	Val	Arg	Gln	Ala
	35					40	Pro
Gly	Gln	Gly	Leu	Glu	Trp	Ile	
			45				
Gly	Met	Ile	Arg	Pro	Ser	Asp	Ser
	50					55	Glu
Thr	Arg	Leu	Asn	Gln	Met	Phe	
		60					
Lys	Asp	Arg	Val	Thr	Ile	Thr	Val
65					70		Asp
Lys	Ser	Thr	Ser	Thr	Ala	Tyr	
	75					80	
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser
			85				Glu
Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
	90				95		
Ala	Gly	Ile	His	Asp	Tyr	Gly	His
		100				105	Gly
Ala	Tyr	Trp	Gly	Gln	Gly	Thr	
				110			
Leu	Val	Thr	Val	Ser	Ser	Gly	Gly
	115					120	Gly
Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly
					135		Ser
Gly	Thr	Gln	Ser	Thr	His		
	140						
Glu	Ser	Leu	Lys	Pro	Gln	Arg	Val
145					150		Gln
Phe	Gln	Ser	Arg	Asn	Phe	His	
	155				160		
Asn	Ile	Leu	Gln	Trp	Gln	Pro	Gly
			165				Arg
Ala	Leu	Thr	Gly	Asn	Ser	Ser	
	170			175			
Val	Tyr	Phe	Val	Gln	Tyr	Lys	Ile
	180					185	Met
Phe	Glu	Pro	Lys	Ser	Ser	Asp	
			190				
Lys	Thr	His	Thr	Cys	Pro	Pro	Cys
	195					200	Pro
Ala	Pro	Glu	Leu	Leu	Gly	Gly	
		205					
Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro
	210					215	Lys
Pro	Lys	Asp	Thr	Leu	Met	Ile	
		220					

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 225 230 235 240

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 245 250 255

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 260 265 270

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 275 280 285

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 290 295 300

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 305 310 315 320

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

Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 340 345 350

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 355 360 365

Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val Asp
 370 375 380

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 385 390 395 400

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 405 410 415

Gly Lys

<210> 44
<211> 564
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 44

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Cys Thr Ser Arg Pro
130 135 140

His Ile Thr Val Val Glu Gly Glu Pro Phe Tyr Leu Lys His Cys Ser
145 150 155 160

Cys Ser Leu Ala His Glu Ile Glu Thr Thr Thr Lys Ser Trp Tyr Lys
165 170 175

Ser Ser Gly Ser Gln Glu His Val Glu Leu Asn Pro Arg Ser Ser Ser
180 185 190

Arg Ile Ala Leu His Asp Cys Val Leu Glu Phe Trp Pro Val Glu Leu
195 200 205

Asn Asp Thr Gly Ser Tyr Phe Phe Gln Met Lys Asn Tyr Thr Gln Lys
210 215 220

Trp Lys Leu Asn Val Ile Arg Arg Asn Lys His Ser Cys Phe Thr Glu
225 230 235 240

Arg Gln Val Thr Ser Lys Ile Val Glu Val Lys Lys Phe Phe Gln Ile
245 250 255

Thr Cys Glu Asn Ser Tyr Tyr Gln Thr Leu Val Asn Ser Thr Ser Leu
260 265 270

Tyr Lys Asn Cys Lys Lys Leu Leu Leu Glu Asn Asn Lys Asn Pro Thr
275 280 285

Ile Lys Lys Asn Ala Glu Phe Glu Asp Gln Gly Tyr Tyr Ser Cys Val
290 295 300

His Phe Leu His His Asn Gly Lys Leu Phe Asn Ile Thr Lys Thr Phe
305 310 315 320

Asn Ile Thr Ile Val Glu Asp Arg Ser Asn Ile Val Glu Pro Lys Ser
325 330 335

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
340 345 350

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
355 360 365

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
370 375 380

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
 385 390 395 400

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
 405 410 415

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
 420 425 430

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
 435 440 445

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
 450 455 460

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
 465 470 475 480

Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
 485 490 495

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

Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr
 515 520 525

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
 530 535 540

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
 545 550 555 560

Ser Pro Gly Lys

<210> 45
 <211> 285
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Synthesized

<400> 45

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
130 135 140

Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
145 150 155 160

Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
165 170 175

Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
180 185 190

Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
195 200 205

Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
210 215 220

Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
225 230 235 240

Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
245 250 255

Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
260 265 270

Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
275 280 285

<210> 46
<211> 662
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 46

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Cys Thr Ser Arg Pro
130 135 140

His Ile Thr Val Val Glu Gly Glu Pro Phe Tyr Leu Lys His Cys Ser
145 150 155 160

Cys Ser Leu Ala His Glu Ile Glu Thr Thr Thr Lys Ser Trp Tyr Lys
165 170 175

Ser Ser Gly Ser Gln Glu His Val Glu Leu Asn Pro Arg Ser Ser Ser
180 185 190

Arg Ile Ala Leu His Asp Cys Val Leu Glu Phe Trp Pro Val Glu Leu
195 200 205

Asn Asp Thr Gly Ser Tyr Phe Phe Gln Met Lys Asn Tyr Thr Gln Lys
210 215 220

Trp Lys Leu Asn Val Ile Arg Arg Asn Lys His Ser Cys Phe Thr Glu
225 230 235 240

Arg Gln Val Thr Ser Lys Ile Val Glu Val Lys Lys Phe Phe Gln Ile
245 250 255

Thr Cys Glu Asn Ser Tyr Tyr Gln Thr Leu Val Asn Ser Thr Ser Leu
260 265 270

Tyr Lys Asn Cys Lys Lys Leu Leu Leu Glu Asn Asn Lys Asn Pro Thr
275 280 285

Ile Lys Lys Asn Ala Glu Phe Glu Asp Gln Gly Tyr Tyr Ser Cys Val
 290 295 300

His Phe Leu His His Asn Gly Lys Leu Phe Asn Ile Thr Lys Thr Phe
 305 310 315 320

Asn Ile Thr Ile Val Glu Asp Arg Ser Asn Ile Val Pro Val Leu Leu
 325 330 335

Gly Pro Lys Leu Asn His Val Ala Val Glu Leu Gly Lys Asn Val Arg
 340 345 350

Leu Asn Cys Ser Ala Leu Leu Asn Glu Glu Asp Val Ile Tyr Trp Met
 355 360 365

Phe Gly Glu Glu Asn Gly Ser Asp Pro Asn Ile His Glu Glu Lys Glu
 370 375 380

Met Arg Ile Met Thr Pro Glu Gly Lys Trp His Ala Ser Lys Val Leu
 385 390 395 400

Arg Ile Glu Asn Ile Gly Glu Ser Asn Leu Asn Val Leu Tyr Asn Cys
 405 410 415

Thr Val Ala Ser Thr Gly Gly Thr Asp Thr Lys Ser Phe Ile Glu Pro
 420 425 430

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 435 440 445

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 450 455 460

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 465 470 475 480

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 485 490 495

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
500 505 510

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
515 520 525

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
530 535 540

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
545 550 555 560

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
565 570 575

Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile
580 585 590

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
595 600 605

Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys
610 615 620

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
625 630 635 640

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
645 650 655

Ser Leu Ser Pro Gly Lys
660

<210> 47
<211> 584
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 47

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Cys Pro Asp Leu Val
 130 135 140

Cys Tyr Thr Asp Tyr Leu Gln Thr Val Ile Cys Ile Leu Glu Met Trp
 145 150 155 160

Asn Leu His Pro Ser Thr Leu Thr Leu Thr Trp Gln Asp Gln Tyr Glu
 165 170 175

Glu Leu Lys Asp Glu Ala Thr Ser Cys Ser Leu His Arg Ser Ala His
 180 185 190

Asn Ala Thr His Ala Thr Tyr Thr Cys His Met Asp Val Phe His Phe
 195 200 205

Met Ala Asp Asp Ile Phe Ser Val Gln Ile Thr Asp Gln Ser Gly Gln
210 215 220

Tyr Ser Gln Glu Cys Gly Ser Phe Leu Leu Ala Glu Ser Ile Lys Pro
225 230 235 240

Ala Pro Pro Phe Asp Val Thr Val Thr Phe Ser Gly Gln Tyr Gln Ile
245 250 255

Ser Trp Arg Ser Asp Tyr Glu Asp Pro Ala Phe Tyr Met Leu Lys Gly
260 265 270

Lys Leu Gln Tyr Glu Leu Gln Tyr Arg Asn Arg Gly Asp Pro Trp Ala
275 280 285

Val Ser Pro Arg Arg Lys Leu Ile Ser Val Asp Ser Arg Ser Val Ser
290 295 300

Leu Leu Pro Leu Glu Phe Arg Lys Asp Ser Ser Tyr Glu Leu Gln Val
305 310 315 320

Arg Ala Gly Pro Met Pro Gly Ser Ser Tyr Gln Gly Thr Trp Ser Glu
325 330 335

Trp Ser Asp Pro Val Ile Phe Gln Thr Gln Ser Glu Glu Leu Lys Glu
340 345 350

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
355 360 365

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln

420

425

430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 515 520 525

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
 530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
 580

<210> 48

<211> 266

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 48

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

His Lys Ser Ser Ser Gln Gly Gln Asp Arg His Met Ile Arg Met Arg
130 135 140

Gln Leu Ile Asp Ile Val Asp Gln Leu Lys Asn Tyr Val Asn Asp Leu
145 150 155 160

Val Pro Glu Phe Leu Pro Ala Pro Glu Asp Val Glu Thr Asn Cys Glu
165 170 175

Trp Ser Ala Phe Ser Cys Phe Gln Lys Ala Gln Leu Lys Ser Ala Asn
180 185 190

Thr Gly Asn Asn Glu Arg Ile Ile Asn Val Ser Ile Lys Lys Leu Lys
195 200 205

Arg Lys Pro Pro Ser Thr Asn Ala Gly Arg Arg Gln Lys His Arg Leu

210

215

220

Thr Cys Pro Ser Cys Asp Ser Tyr Glu Lys Lys Pro Pro Lys Glu Phe
 225 230 235 240

Leu Glu Arg Phe Lys Ser Leu Leu Gln Lys Met Ile His Gln His Leu
 245 250 255

Ser Ser Arg Thr His Gly Ser Glu Asp Ser
 260 265

<210> 49

<211> 546

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 49

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Cys Ala Leu
195 200 205

Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val
210 215 220

Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala
225 230 235 240

Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val
245 250 255

Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr
260 265 270

Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr
275 280 285

Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly
290 295 300

Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Lys Ser Ser Asp
305 310 315 320

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly

325	330	335
Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile		
340	345	350
Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu		
355	360	365
Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His		
370	375	380
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg		
385	390	400
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys		
405	410	415
Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu		
420	425	430
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr		
435	440	445
Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu		
450	455	460
Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp		
465	470	480
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val		
485	490	495
Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val Asp		
500	505	510
Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His		
515	520	525
Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro		
530	535	540

Gly Lys
545

<210> 50
<211> 242
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 50

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile
130 135 140

Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His

145		150		155		160									
Pro	Ser	Cys	Lys	Val	Thr	Ala	Met	Lys	Cys	Phe	Leu	Leu	Glu	Leu	Gln
				165					170					175	
Val	Ile	Ser	Leu	Glu	Ser	Gly	Asp	Ala	Ser	Ile	His	Asn	Thr	Val	Gln
			180					185					190		
Asp	Leu	Ile	Ile	Leu	Ala	Asn	Asn	Ser	Leu	Ser	Ser	Asn	Gly	Asn	Val
		195					200					205			
Thr	Glu	Ser	Gly	Cys	Lys	Glu	Cys	Glu	Cys	Leu	Glu	Glu	Lys	Asn	Ile
	210					215					220				
Lys	Glu	Phe	Leu	Gln	Ser	Phe	Val	His	Ile	Val	Gln	Met	Phe	Ile	Asn
225					230					235					240

Thr Ser

<210> 51
 <211> 449
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 51

Gln	Val	Gln	Leu	Gln	Glu	Ser	Gly	Pro	Gly	Leu	Val	Lys	Pro	Ser	Glu
1				5					10					15	
Thr	Leu	Ser	Leu	Thr	Cys	Ala	Val	Tyr	Gly	Asp	Ser	Ile	Thr	Ser	Gly
			20					25					30		
Tyr	Trp	Asn	Trp	Ile	Arg	Lys	Pro	Pro	Gly	Lys	Gly	Leu	Glu	Tyr	Ile
		35					40					45			
Gly	Tyr	Ile	Ser	Tyr	Thr	Gly	Ser	Thr	Tyr	Gln	Asn	Pro	Ser	Leu	Lys
	50					55					60				

Ser Arg Ile Thr Met Ser Arg Asp Thr Ser Lys Asn Gln Tyr Tyr Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Ser Arg Ala Trp Ile Arg Thr Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

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

Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu
130 135 140

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

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

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

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
195 200 205

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

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
225 230 235 240

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

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

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn

275

280

285

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

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

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

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

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

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

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

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

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

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

Lys

<210> 52

<211> 215

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 52

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Val Ser Ser Ser Ile Ser Ser Ser
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Trp
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

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

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

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

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

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

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

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

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys

195

200

205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 53

<211> 546

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 53

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Cys Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
 145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
 165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
 180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu
 195 200 205

Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val
 210 215 220

Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala
 225 230 235 240

Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val
 245 250 255

Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr
 260 265 270

Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr
 275 280 285

Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly
 290 295 300

Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Lys Ser Ser Asp
 305 310 315 320

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 325 330 335

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 340 345 350

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu

355

360

365

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 370 375 380

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 385 390 395 400

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 405 410 415

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 420 425 430

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 435 440 445

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 450 455 460

Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 465 470 475 480

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 485 490 495

Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val Asp
 500 505 510

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 515 520 525

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 530 535 540

Gly Lys
 545

<210> 54
 <211> 242

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 54

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Cys Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile
130 135 140

Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His
145 150 155 160

Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu Gln
165 170 175

Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asn Thr Val Gln

180

185

190

Asp Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn Val
 195 200 205

Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn Ile
 210 215 220

Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile Asn
 225 230 235 240

Thr Ser

<210> 55
 <211> 546
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 55

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Cys Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu
195 200 205

Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val
210 215 220

Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala
225 230 235 240

Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val
245 250 255

Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr
260 265 270

Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr
275 280 285

Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly
290 295 300

Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Lys Ser Ser Asp

305		310		315		320
Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly						
		325		330		335
Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile						
		340		345		350
Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu						
		355		360		365
Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His						
		370		375		380
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg						
385		390		395		400
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys						
		405		410		415
Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu						
		420		425		430
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr						
		435		440		445
Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu						
		450		455		460
Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp						
465		470		475		480
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val						
		485		490		495
Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val Asp						
		500		505		510
Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His						
		515		520		525

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
530 535 540

Gly Lys
545

<210> 56
<211> 242
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 56

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Cys Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile

130

135

140

Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His
 145 150 155 160

Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu Gln
 165 170 175

Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asn Thr Val Gln
 180 185 190

Asp Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn Val
 195 200 205

Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn Ile
 210 215 220

Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile Asn
 225 230 235 240

Thr Ser

<210> 57
 <211> 546
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 57

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Cys Glu Trp Ile
 35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu
195 200 205

Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val
210 215 220

Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala
225 230 235 240

Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val
245 250 255

Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr

260

265

270

Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr
 275 280 285

Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly
 290 295 300

Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Lys Ser Ser Asp
 305 310 315 320

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 325 330 335

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 340 345 350

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 355 360 365

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 370 375 380

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 385 390 395 400

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 405 410 415

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 420 425 430

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 435 440 445

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 450 455 460

Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 465 470 475 480

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
485 490 495

Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val Asp
500 505 510

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
515 520 525

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
530 535 540

Gly Lys
545

<210> 58
<211> 242
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 58

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg

85

90

95

Thr Cys Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
 100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile
 130 135 140

Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His
 145 150 155 160

Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu Gln
 165 170 175

Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asn Thr Val Gln
 180 185 190

Asp Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn Val
 195 200 205

Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn Ile
 210 215 220

Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile Asn
 225 230 235 240

Thr Ser

<210> 59
 <211> 547
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 59

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Ser Gly
20 25 30

Tyr Trp Asn Trp Ile Arg Lys Pro Pro Gly Lys Cys Leu Glu Tyr Ile
35 40 45

Gly Tyr Ile Ser Tyr Thr Gly Ser Thr Tyr Gln Asn Pro Ser Leu Lys
50 55 60

Ser Arg Ile Thr Met Ser Arg Asp Thr Ser Lys Asn Gln Tyr Tyr Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Ser Arg Ala Trp Ile Arg Thr Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
115 120 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro
130 135 140

Pro Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser
145 150 155 160

Leu Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys
165 170 175

Ala Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn
180 185 190

Val Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala
195 200 205

Leu Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly

210

215

220

Val Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala
 225 230 235 240

Ala Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile
 245 250 255

Val Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr
 260 265 270

Thr Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr
 275 280 285

Thr Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro
 290 295 300

Gly Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Lys Ser Ser
 305 310 315 320

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 325 330 335

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 340 345 350

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 355 360 365

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

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 385 390 395 400

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 405 410 415

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 420 425 430

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
435 440 445

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
450 455 460

Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
465 470 475 480

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
485 490 495

Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val
500 505 510

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
515 520 525

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
530 535 540

Pro Gly Lys
545

<210> 60
<211> 243
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 60

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Val Ser Ser Ser Ile Ser Ser Ser
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Trp

35

40

45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln
 65 70 75 80

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

Leu Thr Phe Gly Cys Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu
 130 135 140

Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val
 145 150 155 160

His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu
 165 170 175

Gln Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asn Thr Val
 180 185 190

Gln Asp Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn
 195 200 205

Val Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn
 210 215 220

Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile
 225 230 235 240

Asn Thr Ser

<210> 61
<211> 448
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 61

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

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

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
130 135 140

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
145 150 155 160

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln

165

170

175

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

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
 195 200 205

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

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 225 230 235 240

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

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

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

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

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

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

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

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

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

Asn Gly Gln Pro Glu Asn Asn Tyr Asp Thr Thr Pro Pro Val Leu Asp
385 390 395 400

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

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

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

<210> 62
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 62

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala

100

105

110

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

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

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

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

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

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

Phe Asn Arg Gly Glu Cys
 210

<210> 63
 <211> 546
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 63

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu
195 200 205

Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val
210 215 220

Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala
225 230 235 240

Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val
245 250 255

Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr

260

265

270

Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr
 275 280 285

Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly
 290 295 300

Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Lys Ser Ser Asp
 305 310 315 320

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 325 330 335

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 340 345 350

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 355 360 365

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 370 375 380

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 385 390 395 400

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 405 410 415

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 420 425 430

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 435 440 445

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 450 455 460

Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 465 470 475 480

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
485 490 495

Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val Asp
500 505 510

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
515 520 525

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
530 535 540

Gly Lys
545

<210> 64
<211> 242
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 64

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg

85

90

95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
 100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile Glu Asp Leu Ile
 130 135 140

Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu Ser Asp Val His
 145 150 155 160

Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu Leu Glu Leu Gln
 165 170 175

Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His Asn Thr Val Gln
 180 185 190

Asp Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser Asn Gly Asn Val
 195 200 205

Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu Glu Lys Asn Ile
 210 215 220

Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln Met Phe Ile Asn
 225 230 235 240

Thr Ser

<210> 65
 <211> 546
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 65

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Cys Lys Ala
165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu
195 200 205

Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Thr Thr Ala Gly Val

210

215

220

Thr Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala
 225 230 235 240

Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Ala Ile Val
 245 250 255

Pro Gly Ser Gln Leu Met Pro Ser Lys Ser Pro Ser Thr Gly Thr Thr
 260 265 270

Glu Ile Ser Ser His Glu Ser Ser His Gly Thr Pro Ser Gln Thr Thr
 275 280 285

Ala Lys Asn Trp Glu Leu Thr Ala Ser Ala Ser His Gln Pro Pro Gly
 290 295 300

Val Tyr Pro Gln Gly His Ser Asp Thr Thr Glu Pro Lys Ser Ser Asp
 305 310 315 320

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 325 330 335

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 340 345 350

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 355 360 365

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 370 375 380

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 385 390 395 400

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 405 410 415

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 420 425 430

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
435 440 445

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
450 455 460

Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
465 470 475 480

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
485 490 495

Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu Thr Val Asp
500 505 510

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
515 520 525

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
530 535 540

Gly Lys
545

<210> 66
<211> 436
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 66

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile

35

40

45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Thr Cys Pro Pro
 130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
 145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
 165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
 180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Glu Pro Lys Ser
 195 200 205

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
 210 215 220

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
 225 230 235 240

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
 245 250 255

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
260 265 270

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
275 280 285

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
290 295 300

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
305 310 315 320

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
325 330 335

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

Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
355 360 365

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
370 375 380

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

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
405 410 415

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
420 425 430

Ser Pro Gly Lys
435

<210> 67
<211> 436
<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 67

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Ala Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Glu Pro Lys Ser
195 200 205

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
210 215 220

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
225 230 235 240

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
245 250 255

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
260 265 270

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
275 280 285

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
290 295 300

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
305 310 315 320

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
325 330 335

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

Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
355 360 365

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
370 375 380

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

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
405 410 415

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
420 425 430

Ser Pro Gly Lys
435

<210> 68
<211> 485
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 68

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ile Ala Cys Pro Pro
130 135 140

Pro Met Ser Val Glu His Ala Asp Ile Trp Val Lys Ser Tyr Ser Leu
145 150 155 160

Tyr Ser Arg Glu Arg Tyr Ile Cys Asn Ser Gly Phe Lys Arg Lys Ala
165 170 175

Gly Thr Ser Ser Leu Thr Glu Cys Val Leu Asn Lys Ala Thr Asn Val
180 185 190

Ala His Trp Thr Thr Pro Ser Leu Lys Cys Ile Arg Asp Pro Ala Leu
195 200 205

Val His Gln Arg Pro Ala Pro Pro Ser Thr Val Ala Thr Ala Gly Val
210 215 220

Ala Pro Gln Pro Glu Ser Leu Ser Pro Ser Gly Lys Glu Pro Ala Ala
225 230 235 240

Ser Ser Pro Ser Ser Asn Asn Thr Ala Ala Thr Thr Ala Glu Pro Lys
245 250 255

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
260 265 270

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
275 280 285

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
290 295 300

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
305 310 315 320

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
325 330 335

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 340 345 350

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 355 360 365

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 370 375 380

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 385 390 395 400

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

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 420 425 430

Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala Ser Lys Leu
 435 440 445

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 450 455 460

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 465 470 475 480

Leu Ser Pro Gly Lys
 485

<210> 69
 <211> 584
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 69

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Ser Gly
20 25 30

Tyr Trp Asn Trp Ile Arg Lys Pro Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

Gly Tyr Ile Ser Tyr Thr Gly Ser Thr Tyr Gln Asn Pro Ser Leu Lys
50 55 60

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

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Thr Tyr Tyr Cys Ala
85 90 95

Arg Ser Arg Ala Trp Ile Arg Thr Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
115 120 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Cys Pro Asp Leu
130 135 140

Val Cys Tyr Thr Asp Tyr Leu Gln Thr Val Ile Cys Ile Leu Glu Met
145 150 155 160

Trp Asn Leu His Pro Ser Thr Leu Thr Leu Thr Trp Gln Asp Gln Tyr
165 170 175

Glu Glu Leu Lys Asp Glu Ala Thr Ser Cys Ser Leu His Arg Ser Ala
180 185 190

His Asn Ala Thr His Ala Thr Tyr Thr Cys His Met Asp Val Phe His
195 200 205

Phe Met Ala Asp Asp Ile Phe Ser Val Gln Ile Thr Asp Gln Ser Gly
210 215 220

Gln Tyr Ser Gln Glu Cys Gly Ser Phe Leu Leu Ala Glu Ser Ile Lys
225 230 235 240

Pro Ala Pro Pro Phe Asp Val Thr Val Thr Phe Ser Gly Gln Tyr Gln
245 250 255

Ile Ser Trp Arg Ser Asp Tyr Glu Asp Pro Ala Phe Tyr Met Leu Lys
260 265 270

Gly Lys Leu Gln Tyr Glu Leu Gln Tyr Arg Asn Arg Gly Asp Pro Trp
275 280 285

Ala Val Ser Pro Arg Arg Lys Leu Ile Ser Val Asp Ser Arg Ser Val
290 295 300

Ser Leu Leu Pro Leu Glu Phe Arg Lys Asp Ser Ser Tyr Glu Leu Gln
305 310 315 320

Val Arg Ala Gly Pro Met Pro Gly Ser Ser Tyr Gln Gly Thr Trp Ser
325 330 335

Glu Trp Ser Asp Pro Val Ile Phe Gln Thr Gln Ser Glu Glu Leu Lys
340 345 350

Glu Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu
530 535 540

Ala Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly
580

<210> 70

<211> 448

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 70

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

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

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
130 135 140

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
145 150 155 160

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

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

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
195 200 205

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

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 225 230 235 240

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

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

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

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

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

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

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

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

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

Asn Gly Gln Pro Glu Asn Asn Tyr Asp Thr Thr Pro Pro Val Leu Asp
 385 390 395 400

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

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

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys

435

440

445

<210> 71
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 71

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Ser Gly
 20 25 30

Tyr Trp Asn Trp Ile Arg Lys Pro Pro Gly Lys Cys Leu Glu Tyr Ile
 35 40 45

Gly Tyr Ile Ser Tyr Thr Gly Ser Thr Tyr Gln Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Thr Met Ser Arg Asp Thr Ser Lys Asn Gln Tyr Tyr Leu
 65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Ser Arg Ala Trp Ile Arg Thr Tyr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 72
 <211> 108
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 72

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Val Ser Ser Ser Ile Ser Ser Ser
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro Trp
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln
65 70 75 80

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

Leu Thr Phe Gly Cys Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 73

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 73

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe

50

55

60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 74

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 74

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 75
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 75

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Ser Gly
20 25 30

Tyr Trp Asn Trp Ile Arg Lys Pro Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

Gly Tyr Ile Ser Tyr Thr Gly Ser Thr Tyr Gln Asn Pro Ser Leu Lys
50 55 60

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

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Thr Tyr Tyr Cys Ala
85 90 95

Arg Ser Arg Ala Trp Ile Arg Thr Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 76
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 76

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Ser Val Ser Ser Ser Ile Ser Ser Ser
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu
65 70 75 80

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

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 77

<211> 536

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 77

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Cys Gly Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln

260

265

270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
 275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
 290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 78

<211> 261

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 78

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser

100

105

110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
 130 135 140

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
 145 150 155 160

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
 165 170 175

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
 180 185 190

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

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
 210 215 220

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
 225 230 235 240

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
 245 250 255

Ile Ser Thr Leu Thr
 260

<210> 79

<211> 449

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 79

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Ser Gly
20 25 30

Tyr Trp Asn Trp Ile Arg Lys Pro Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

Gly Tyr Ile Ser Tyr Thr Gly Ser Thr Tyr Gln Asn Pro Ser Leu Lys
50 55 60

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

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Thr Tyr Tyr Cys Ala
85 90 95

Arg Ser Arg Ala Trp Ile Arg Thr Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

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

Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu
130 135 140

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

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

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

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
195 200 205

Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp Lys

210

215

220

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
 225 230 235 240

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

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

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

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

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

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

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

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

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

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

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

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

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

Lys

<210> 80
<211> 215
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 80

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Ser Val Ser Ser Ser Ile Ser Ser Ser
20 25 30

Asn Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu
35 40 45

Ile Tyr Gly Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu
65 70 75 80

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

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

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

Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu

130

135

140

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

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

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

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

Ser Phe Asn Arg Gly Glu Cys
 210 215

<210> 81
 <211> 504
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 81

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Ala Pro Thr Ser Ser
130 135 140

Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu
145 150 155 160

Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr
165 170 175

Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu
180 185 190

Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val
195 200 205

Leu Asn Leu Ala Gln Cys Lys Asn Phe His Leu Arg Pro Arg Asp Leu
210 215 220

Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr
225 230 235 240

Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe
245 250 255

Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
260 265 270

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
275 280 285

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro

290

295

300

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

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 325 330 335

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 340 345 350

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 355 360 365

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 370 375 380

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

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

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 420 425 430

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

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
 450 455 460

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

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 485 490 495

Ser Leu Ser Leu Ser Pro Gly Lys
 500

<210> 82
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 82

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Cys Gly
115 120 125

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
130 135 140

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
145 150 155 160

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly

165

170

175

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
 180 185 190

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
 195 200 205

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
 210 215 220

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
 225 230 235 240

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
 245 250 255

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
 260 265 270

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
 275 280 285

Leu Ile Cys Thr Gly
 290

<210> 83
 <211> 536
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 83

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Cys Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg

245

250

255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
 260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
 275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
 290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 84
<211> 261
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 84

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Val
35 40 45

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg

85

90

95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
 100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
 130 135 140

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
 145 150 155 160

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

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
 180 185 190

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

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
 210 215 220

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
 225 230 235 240

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
 245 250 255

Ile Ser Thr Leu Thr
 260

<210> 85

<211> 536

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 85

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Phe Cys Gly Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr

195

200

205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
 210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
 225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
 245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
 260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
 275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
 290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 86
<211> 536
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 86

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile

35

40

45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
 50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Ser Cys Gly Glu Leu Cys Asp Asp
 130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
 145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
 165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
 180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
 195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
 210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
 225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
 245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 87
<211> 536
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 87

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Lys Cys Gly Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
 485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 88
<211> 536
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 88

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Asp Cys Gly Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
 145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
 165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
 180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
 195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
 210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
 225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
 245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
 260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
 275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
 290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 89

<211> 536

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 89

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Phe Cys Ser Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
385 390 395 400

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

405

410

415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
 485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
 530 535

<210> 90

<211> 536

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized

<400> 90

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Lys Cys Asp Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg

245

250

255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
 260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
 275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
 290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 91
<211> 536
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 91

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

85

90

95

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Ser Cys Asp Glu Leu Cys Asp Asp
 130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
 145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
 165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
 180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
 195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
 210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
 225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
 245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
 260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
 275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
 290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
 450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
 485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 92
<211> 536
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 92

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Asp Cys Phe Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535

<210> 93
<211> 536
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthesized

<400> 93

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Met Ile Arg Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Met Phe
50 55 60

Lys Asp Arg Val Thr Ile Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Gly Ile His Asp Tyr Gly His Gly Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Gly Gly Gly Ser Cys Lys Glu Leu Cys Asp Asp
130 135 140

Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys
145 150 155 160

Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile
165 170 175

Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser
180 185 190

Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr
195 200 205

Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr
210 215 220

Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro
225 230 235 240

Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg
245 250 255

Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln
260 265 270

Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met
275 280 285

Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly
290 295 300

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
305 310 315 320

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
325 330 335

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
340 345 350

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
355 360 365

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
370 375 380

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
385 390 395 400

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
405 410 415

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
420 425 430

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
435 440 445

Lys Asn Gln Val Ser Leu Thr Cys Arg Val Lys Gly Phe Tyr Pro Ser
450 455 460

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
465 470 475 480

Lys Thr Thr Pro Pro Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Ala
485 490 495

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
500 505 510

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
515 520 525

Ser Leu Ser Leu Ser Pro Gly Lys
530 535