

# SEQUENCE LISTING

<110> THE JOHNS HOPKINS UNIVERSITY  
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RAVI, Rajani

<120> COMPOSITIONS AND METHODS FOR TARGETED IMMUNOMODULATORY ANTIBODIES  
AND FUSION PROTEINS

<130> JHU3260-4W0

<150> US 61/435,671

<151> 2011-01-24

<150> US 61/311,255

<151> 2010-03-05

<160> 121

<170> PatentIn version 3.5

<210> 1

<211> 602

<212> PRT

<213> Homo sapiens

<400> 1

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Lys Asp Thr  
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Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val  
35 40 45

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
450 455 460

Ser Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile  
465 470 475 480

Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe  
485 490 495

Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser  
500 505 510

Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val  
515 520 525

Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys  
530 535 540

His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala  
545 550 555 560

Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe  
565 570 575

Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe  
580 585 590

Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
595 600

<210> 2  
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<212> PRT  
<213> Homo sapiens

<400> 2

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

Gly Val Ile Trp Ser Gly Gly Asn Thr Asp Tyr Asn Thr Pro Phe Thr

50

55

60

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

Lys Met Asn Ser Leu Gln Ser Asn Asp Thr Ala Ile Tyr Tyr Cys Ala  
85 90 95

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

Thr Leu Val Thr Val Ser Ala 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 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr  
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 Lys Thr Thr Pro Pro Val Leu  
385 390 395 400

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser

450

455

460

Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val  
 465 470 475 480

Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys  
 485 490 495

Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn  
 500 505 510

Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala  
 515 520 525

Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His  
 530 535 540

Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser  
 545 550 555 560

Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe  
 565 570 575

Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser  
 580 585 590

Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
 595 600

<210> 3  
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 <212> PRT  
 <213> Homo sapiens

<400> 3

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala  
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Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
20 25 30

Asn Met His Trp Val Lys Gln Thr Pro Gly Arg Gly Leu Glu Trp Ile  
35 40 45

Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

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

Ala Arg Ser Thr Tyr Tyr Gly Gly Asp Trp Tyr Phe Asn Val Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met  
465 470 475 480

Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys  
485 490 495

Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met  
500 505 510

Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys  
515 520 525

Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val  
530 535 540

Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala  
545 550 555 560

Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr  
565 570 575

Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile  
580 585 590

Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
595 600

<210> 4  
<211> 605

<212> PRT

<213> Homo sapiens

<400> 4

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr  
20 25 30

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

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe  
50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala 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 Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val  
100 105 110

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

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

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

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

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val

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

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr  
 385 390 395 400

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

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
 420 425 430

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
 435 440 445

Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
 450 455 460

Gly Gly Gly Ser Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn  
 465 470 475 480

Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu  
 485 490 495

Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser  
 500 505 510

Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu  
 515 520 525

Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu  
 530 535 540

Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu  
 545 550 555 560

Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly  
 565 570 575

Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn

580

585

590

Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
 595 600 605

<210> 5  
 <211> 600  
 <212> PRT  
 <213> Homo sapiens

<400> 5

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

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

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

Thr Phe Ile Ser Tyr Asp Gly Asn Asn Lys Tyr Tyr Ala Asp Ser 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 Ile Tyr Tyr Cys  
 85 90 95

Ala Arg Thr Gly Trp Leu Gly Pro Phe Asp 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 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr 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 Lys Thr Thr Pro Pro Val Leu Asp  
385 390 395 400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Thr  
450 455 460

Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val Thr  
465 470 475 480

Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys Asp  
485 490 495

Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn Cys  
500 505 510

Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala Val  
515 520 525

Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His Asp  
530 535 540

Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser Pro  
545 550 555 560

Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe Met  
565 570 575

Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser Glu  
580 585 590

Glu Tyr Asn Thr Ser Asn Pro Asp  
595 600

<210> 6  
<211> 525  
<212> PRT  
<213> Homo sapiens

<400> 6

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His  
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys  
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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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
130 135 140

Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu  
145 150 155 160

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr  
165 170 175

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val  
180 185 190

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val  
195 200 205

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser  
210 215 220

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu  
225 230 235 240

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala  
245 250 255

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro  
260 265 270

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln  
275 280 285

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala  
290 295 300

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     | 310 |     | 315 |     | 320 |     |     |     |     |     |     |     |     |     |
| Pro | Pro | Val | Leu | Asp | Ser | Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Lys | Leu |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Thr | Val | Asp | Lys | Ser | Arg | Trp | Gln | Gln | Gly | Asn | Val | Phe | Ser | Cys | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Val | Met | His | Glu | Ala | Leu | His | Asn | His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Leu | Ser | Pro | Gly | Lys | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Gly | Gly | Gly | Ser | Thr | Ile | Pro | Pro | His | Val | Gln | Lys | Ser | Val | Asn | Asn |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Asp | Met | Ile | Val | Thr | Asp | Asn | Asn | Gly | Ala | Val | Lys | Phe | Pro | Gln | Leu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Cys | Lys | Phe | Cys | Asp | Val | Arg | Phe | Ser | Thr | Cys | Asp | Asn | Gln | Lys | Ser |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Cys | Met | Ser | Asn | Cys | Ser | Ile | Thr | Ser | Ile | Cys | Glu | Lys | Pro | Gln | Glu |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Val | Cys | Val | Ala | Val | Trp | Arg | Lys | Asn | Asp | Glu | Asn | Ile | Thr | Leu | Glu |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Thr | Val | Cys | His | Asp | Pro | Lys | Leu | Pro | Tyr | His | Asp | Phe | Ile | Leu | Glu |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Asp | Ala | Ala | Ser | Pro | Lys | Cys | Ile | Met | Lys | Glu | Lys | Lys | Lys | Pro | Gly |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Glu | Thr | Phe | Phe | Met | Cys | Ser | Cys | Ser | Ser | Asp | Glu | Cys | Asn | Asp | Asn |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |

Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
515 520 525

<210> 7  
<211> 525  
<212> PRT  
<213> Homo sapiens

<400> 7

Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val  
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Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys  
20 25 30

Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn  
35 40 45

Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala  
50 55 60

Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His  
65 70 75 80

Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser  
85 90 95

Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe  
100 105 110

Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser  
115 120 125

Glu Glu Tyr Asn Thr Ser Asn Pro Asp Gly Gly Gly Gly Ser Gly Gly  
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
145 150 155 160

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
165 170 175

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
180 185 190

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
195 200 205

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
210 215 220

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
225 230 235 240

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
245 250 255

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

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met  
275 280 285

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
290 295 300

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

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
325 330 335

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
340 345 350

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
355 360 365

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
370 375 380

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

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile  
405 410 415

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu  
420 425 430

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu  
435 440 445

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu  
450 455 460

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn  
465 470 475 480

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met  
485 490 495

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg  
500 505 510

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr  
515 520 525

<210> 8

<211> 598

<212> PRT

<213> Homo sapiens

<400> 8

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 Thr Phe Thr Ser Tyr  
20 25 30

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

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

Lys Asp Lys Ala Thr Ile Thr Ala Asp Glu Ser Thr Asn 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 Arg Gly Gly Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val  
100 105 110

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

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

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

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

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

Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr

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

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

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

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

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Thr Ile Pro  
450 455 460

Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val Thr Asp Asn  
465 470 475 480

Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys Asp Val Arg  
485 490 495

Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn Cys Ser Ile  
500 505 510

Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala Val Trp Arg  
515 520 525

Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His Asp Pro Lys  
530 535 540

Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser Pro Lys Cys  
545 550 555 560

Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe Met Cys Ser  
565 570 575

Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser Glu Glu Tyr  
580 585 590

Asn Thr Ser Asn Pro Asp

595

<210> 9  
<211> 597  
<212> PRT  
<213> Homo sapiens

<400> 9

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

Lys Met Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Arg Tyr Trp Met  
20 25 30

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

Ile Tyr Pro Gly Asn Ser Asp Thr Ser Tyr Asn Gln Lys Phe Glu Gly  
50 55 60

Lys Ala Lys Leu Thr Ala Val Thr Ser Ala Ser Thr Ala Tyr Met Glu  
65 70 75 80

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

Asp Tyr Gly Tyr Tyr Phe Asp Phe Trp Gly Gln Gly Thr Thr Leu Thr  
100 105 110

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

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val  
130 135 140

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Thr Ile Pro Pro  
450 455 460

His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val Thr Asp Asn Asn  
465 470 475 480

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

Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn Cys Ser Ile Thr  
500 505 510

Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala Val Trp Arg Lys  
515 520 525

Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His Asp Pro Lys Leu  
530 535 540

Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile  
545 550 555 560

Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe Met Cys Ser Cys  
565 570 575

Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn  
580 585 590

Thr Ser Asn Pro Asp  
595

<210> 10  
<211> 603  
<212> PRT  
<213> Homo sapiens

<400> 10

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

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

Tyr Tyr Trp Phe Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Ile Gly Tyr Ile Tyr Gly Ser Gly Gly Gly Thr Asn Tyr Asn Pro Ser  
50 55 60

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

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

Cys Ala Ser Asn Ile Leu Lys Tyr Leu His Trp Leu Leu Tyr Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile

|                                                                 |     |     |
|-----------------------------------------------------------------|-----|-----|
| 325                                                             | 330 | 335 |
| Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val |     |     |
| 340                                                             | 345 | 350 |
| Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser |     |     |
| 355                                                             | 360 | 365 |
| Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu |     |     |
| 370                                                             | 375 | 380 |
| Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro |     |     |
| 385                                                             | 390 | 395 |
| Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val |     |     |
| 405                                                             | 410 | 415 |
| Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met |     |     |
| 420                                                             | 425 | 430 |
| His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser |     |     |
| 435                                                             | 440 | 445 |
| Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly |     |     |
| 450                                                             | 455 | 460 |
| Gly Ser Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met |     |     |
| 465                                                             | 470 | 475 |
| Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys |     |     |
| 485                                                             | 490 | 495 |
| Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met |     |     |
| 500                                                             | 505 | 510 |
| Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys |     |     |
| 515                                                             | 520 | 525 |

Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val  
530 535 540

Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala  
545 550 555 560

Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr  
565 570 575

Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile  
580 585 590

Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
595 600

<210> 11  
<211> 542  
<212> PRT  
<213> Homo sapiens

<400> 11

Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr  
1 5 10 15

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

Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr  
35 40 45

Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu  
50 55 60

Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu  
65 70 75 80

Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn  
85 90 95

Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala  
100 105 110

Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg  
115 120 125

Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly  
130 135 140

Gln Phe Gln Thr Leu Val Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
145 150 155 160

Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu  
165 170 175

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

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp  
195 200 205

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly  
210 215 220

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn  
225 230 235 240

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp  
245 250 255

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro  
260 265 270

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu  
275 280 285

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile  
305 310 315 320

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr  
325 330 335

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys  
340 345 350

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys  
355 360 365

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu  
370 375 380

Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
385 390 395 400

Gly Gly Gly Gly Ser Thr Ile Pro Pro His Val Gln Lys Ser Val Asn  
405 410 415

Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln  
420 425 430

Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys  
435 440 445

Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln  
450 455 460

Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu  
465 470 475 480

Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu  
485 490 495

Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro  
500 505 510

Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp  
515 520 525

Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
530 535 540

<210> 12  
<211> 542  
<212> PRT  
<213> Homo sapiens  
  
<400> 12

Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val  
1 5 10 15

Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys  
20 25 30

Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn  
35 40 45

Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala  
50 55 60

Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His  
65 70 75 80

Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser  
85 90 95

Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe  
100 105 110

Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |     |     |
| Glu | Glu | Tyr | Asn | Thr | Ser | Asn | Pro | Asp | Gly | Gly | Gly | Gly | Ser | Gly | Gly |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Thr | His | Thr | Cys | Pro | Pro | Cys | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | Pro | Glu | Leu | Leu | Gly | Gly | Pro | Ser | Val | Phe | Leu | Phe | Pro | Pro | Lys |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |
| Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr | Pro | Glu | Val | Thr | Cys | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Val | Val | Asp | Val | Ser | His | Glu | Asp | Pro | Glu | Val | Lys | Phe | Asn | Trp | Tyr |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys | Thr | Lys | Pro | Arg | Glu | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gln | Tyr | Asn | Ser | Thr | Tyr | Arg | Val | Val | Ser | Val | Leu | Thr | Val | Leu | His |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys | Cys | Lys | Val | Ser | Asn | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ala | Leu | Pro | Ala | Pro | Ile | Glu | Lys | Thr | Ile | Ser | Lys | Ala | Lys | Gly | Gln |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro | Pro | Ser | Arg | Glu | Glu | Met |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | Val | Lys | Gly | Phe | Tyr | Pro |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | Gly | Gln | Pro | Glu | Asn | Asn |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
325 330 335

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
340 345 350

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
355 360 365

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
370 375 380

Gly Gly Ser Gly Gly Gly Gly Ser Pro Gly Trp Phe Leu Asp Ser Pro  
385 390 395 400

Asp Arg Pro Trp Asn Pro Pro Thr Phe Ser Pro Ala Leu Leu Val Val  
405 410 415

Thr Glu Gly Asp Asn Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser  
420 425 430

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

Asp Lys Leu Ala Ala Phe Pro Glu Asp Arg Ser Gln Pro Gly Gln Asp  
450 455 460

Cys Arg Phe Arg Val Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met  
465 470 475 480

Ser Val Val Arg Ala Arg Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly  
485 490 495

Ala Ile Ser Leu Ala Pro Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala  
500 505 510

Glu Leu Arg Val Thr Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro

515

520

525

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

<210> 13  
 <211> 577  
 <212> PRT  
 <213> Homo sapiens

<400> 13

Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val  
 1 5 10 15

Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys  
 20 25 30

Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn  
 35 40 45

Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala  
 50 55 60

Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His  
 65 70 75 80

Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser  
 85 90 95

Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe  
 100 105 110

Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser  
 115 120 125

Glu Glu Tyr Asn Thr Ser Asn Pro Asp Gly Gly Gly Gly Ser Gly Gly  
 130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
145 150 155 160

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
165 170 175

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
180 185 190

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
195 200 205

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
210 215 220

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
225 230 235 240

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
245 250 255

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

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met  
275 280 285

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
290 295 300

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

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
325 330 335

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
340 345 350

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
355 360 365

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
370 375 380

Gly Gly Ser Gly Gly Gly Gly Ser Gln Ile Ala Pro Pro Cys Thr Ser  
385 390 395 400

Glu Lys His Tyr Glu His Leu Gly Arg Cys Cys Asn Lys Cys Glu Pro  
405 410 415

Gly Lys Tyr Met Ser Ser Lys Cys Thr Thr Thr Ser Asp Ser Val Cys  
420 425 430

Leu Pro Cys Gly Pro Asp Glu Tyr Leu Asp Ser Trp Asn Glu Glu Asp  
435 440 445

Lys Cys Leu Leu His Lys Val Cys Asp Thr Gly Lys Ala Leu Val Ala  
450 455 460

Val Val Ala Gly Asn Ser Thr Thr Pro Arg Arg Cys Ala Cys Thr Ala  
465 470 475 480

Gly Tyr His Trp Ser Gln Asp Cys Glu Cys Cys Arg Arg Asn Thr Glu  
485 490 495

Cys Ala Pro Gly Leu Gly Ala Gln His Pro Leu Gln Leu Asn Lys Asp  
500 505 510

Thr Val Cys Lys Pro Cys Leu Ala Gly Tyr Phe Ser Asp Ala Phe Ser  
515 520 525

Ser Thr Asp Lys Cys Arg Pro Trp Thr Asn Cys Thr Phe Leu Gly Lys  
530 535 540

Arg Val Glu His His Gly Thr Glu Lys Ser Asp Ala Val Cys Ser Ser  
 545 550 555 560

Ser Leu Pro Ala Arg Lys Pro Pro Asn Glu Pro His Val Tyr Leu Pro  
 565 570 575

Gly

<210> 14  
 <211> 577  
 <212> PRT  
 <213> Homo sapiens

<400> 14

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
 1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
 20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
 35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
 50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
 65 70 75 80

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

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
 100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
 115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly Gly Gly Gly Gly Ser Gly Gly  
180 185 190

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
195 200 205

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
210 215 220

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
225 230 235 240

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
245 250 255

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
260 265 270

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
275 280 285

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
290 295 300

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
305 310 315 320

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|
|     |     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     |     |  | 335 |
| Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | Val | Lys | Gly | Phe | Tyr | Pro |  |     |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |     |
| Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | Gly | Gln | Pro | Glu | Asn | Asn |  |     |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |     |
| Tyr | Lys | Thr | Thr | Pro | Pro | Val | Leu | Asp | Ser | Asp | Gly | Ser | Phe | Phe | Leu |  |     |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |     |
| Tyr | Ser | Lys | Leu | Thr | Val | Asp | Lys | Ser | Arg | Trp | Gln | Gln | Gly | Asn | Val |  |     |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |     |
| Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu | His | Asn | His | Tyr | Thr | Gln |  |     |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |     |
| Lys | Ser | Leu | Ser | Leu | Ser | Pro | Gly | Lys | Gly | Gly | Gly | Gly | Ser | Gly | Gly |  |     |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |     |
| Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Thr | Ile | Pro | Pro | His | Val | Gln | Lys |  |     |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |     |
| Ser | Val | Asn | Asn | Asp | Met | Ile | Val | Thr | Asp | Asn | Asn | Gly | Ala | Val | Lys |  |     |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |     |
| Phe | Pro | Gln | Leu | Cys | Lys | Phe | Cys | Asp | Val | Arg | Phe | Ser | Thr | Cys | Asp |  |     |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |     |
| Asn | Gln | Lys | Ser | Cys | Met | Ser | Asn | Cys | Ser | Ile | Thr | Ser | Ile | Cys | Glu |  |     |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |     |
| Lys | Pro | Gln | Glu | Val | Cys | Val | Ala | Val | Trp | Arg | Lys | Asn | Asp | Glu | Asn |  |     |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |     |
| Ile | Thr | Leu | Glu | Thr | Val | Cys | His | Asp | Pro | Lys | Leu | Pro | Tyr | His | Asp |  |     |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |     |

Phe Ile Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys  
530 535 540

Lys Lys Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu  
545 550 555 560

Cys Asn Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro  
565 570 575

Asp

<210> 15  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 15

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Lys Asp Thr  
20 25 30

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
 450 455 460

Ser Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro  
 465 470 475 480

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

Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp  
 500 505 510

Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro  
515 520 525

Glu Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln  
530 535 540

Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg  
545 550 555 560

Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys  
565 570 575

Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg  
580 585 590

Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala  
595 600 605

Gly Gln Phe Gln Thr Leu Val  
610 615

<210> 16  
<211> 614  
<212> PRT  
<213> Homo sapiens

<400> 16

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

Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Asn Tyr  
20 25 30

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

Gly Val Ile Trp Ser Gly Gly Asn Thr Asp Tyr Asn Thr Pro Phe Thr

50

55

60

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

Lys Met Asn Ser Leu Gln Ser Asn Asp Thr Ala Ile Tyr Tyr Cys Ala  
85 90 95

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

Thr Leu Val Thr Val Ser Ala 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 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr  
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 Lys Thr Thr Pro Pro Val Leu  
385 390 395 400

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser

450

455

460

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

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

Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr  
 500 505 510

Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu  
 515 520 525

Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu  
 530 535 540

Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn  
 545 550 555 560

Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala  
 565 570 575

Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg  
 580 585 590

Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly  
 595 600 605

Gln Phe Gln Thr Leu Val  
 610

&lt;210&gt; 17

&lt;211&gt; 616

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 17

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

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

Asn Met His Trp Val Lys Gln Thr Pro Gly Arg Gly Leu Glu Trp Ile  
35 40 45

Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

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

Ala Arg Ser Thr Tyr Tyr Gly Gly Asp Trp Tyr Phe Asn Val Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro  
465 470 475 480

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

Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn  
500 505 510

Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe  
515 520 525

Pro Glu Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr  
530 535 540

Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg  
545 550 555 560

Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro  
565 570 575

Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu  
580 585 590

Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro  
595 600 605

Ala Gly Gln Phe Gln Thr Leu Val  
610 615

<210> 18  
<211> 618  
<212> PRT  
<213> Homo sapiens

<400> 18

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

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

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

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe  
50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala 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 Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val  
100 105 110

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

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

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val

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

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

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

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr  
385 390 395 400

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

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
420 425 430

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
435 440 445

Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
450 455 460

Gly Gly Gly Ser Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp  
465 470 475 480

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

Asn Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val  
500 505 510

Leu Asn Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala  
515 520 525

Ala Phe Pro Glu Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg  
530 535 540

Val Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg

545                      550                      555                      560

Ala Arg Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu  
565 570 575

Ala Pro Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val  
580 585 590

Thr Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro  
595 600 605

Arg Pro Ala Gly Gln Phe Gln Thr Leu Val  
610 615

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<210> 19
<211> 613
<212> PRT
<213> Homo sapiens
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<400> 19

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

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

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

Thr Phe Ile Ser Tyr Asp Gly Asn Asn Lys Tyr Tyr Ala Asp Ser 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 Ile Tyr Tyr Cys  
85 90 95

Ala Arg Thr Gly Trp Leu Gly Pro Phe Asp 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 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr 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 Lys Thr Thr Pro Pro Val Leu Asp  
385 390 395 400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Pro  
450 455 460

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

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

Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr Arg  
500 505 510

Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu Asp  
515 520 525

Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu Pro  
530 535 540

Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn Asp  
545 550 555 560

Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala Gln  
565 570 575

Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg Ala  
580 585 590

Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly Gln  
595 600 605

Phe Gln Thr Leu Val  
610

<210> 20  
<211> 611  
<212> PRT  
<213> Homo sapiens

<400> 20

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 Thr Phe Thr Ser Tyr  
20 25 30

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

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

Lys Asp Lys Ala Thr Ile Thr Ala Asp Glu Ser Thr Asn 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 Arg Gly Gly Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val  
100 105 110

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

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

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

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

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

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

Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr  
210 215 220

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

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro

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

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Pro Gly Trp  
450 455 460

Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr Phe Ser Pro  
465 470 475 480

Ala Leu Leu Val Val Thr Glu Gly Asp Asn Ala Thr Phe Thr Cys Ser  
485 490 495

Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr Arg Met Ser  
500 505 510

Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu Asp Arg Ser  
515 520 525

Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu Pro Asn Gly  
530 535 540

Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn Asp Ser Gly  
545 550 555 560

Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala Gln Ile Lys  
565 570 575

Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg Ala Glu Val  
580 585 590

Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly Gln Phe Gln  
595 600 605

Thr Leu Val  
610

<210> 21  
<211> 610  
<212> PRT  
<213> Homo sapiens

<400> 21

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

Lys Met Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Arg Tyr Trp Met  
20 25 30

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

Ile Tyr Pro Gly Asn Ser Asp Thr Ser Tyr Asn Gln Lys Phe Glu Gly  
50 55 60

Lys Ala Lys Leu Thr Ala Val Thr Ser Ala Ser Thr Ala Tyr Met Glu  
65 70 75 80

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

Asp Tyr Gly Tyr Tyr Phe Asp Phe Trp Gly Gln Gly Thr Thr Leu Thr  
100 105 110

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

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val  
130 135 140

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Pro Gly Trp Phe  
450 455 460

Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr Phe Ser Pro Ala  
465 470 475 480

Leu Leu Val Val Thr Glu Gly Asp Asn Ala Thr Phe Thr Cys Ser Phe  
485 490 495

Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr Arg Met Ser Pro  
500 505 510

Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu Asp Arg Ser Gln  
515 520 525

Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu Pro Asn Gly Arg  
530 535 540

Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn Asp Ser Gly Thr  
545 550 555 560

Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala Gln Ile Lys Glu  
565 570 575

Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg Ala Glu Val Pro  
580 585 590

Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly Gln Phe Gln Thr  
595 600 605

Leu Val  
610

<210> 22  
<211> 538  
<212> PRT  
<213> Homo sapiens

<400> 22

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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
130 135 140

Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu  
145 150 155 160

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr  
165 170 175

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val  
180 185 190

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val  
195 200 205

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser  
210 215 220

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu  
225 230 235 240

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala  
245 250 255

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro  
260 265 270

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln  
275 280 285

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala  
290 295 300

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr  
305 310 315 320

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu  
325 330 335

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

|                                                                 |     |         |
|-----------------------------------------------------------------|-----|---------|
| 340                                                             | 345 | 350     |
| Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser |     |         |
| 355                                                             | 360 | 365     |
| Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly |     |         |
| 370                                                             | 375 | 380     |
| Gly Gly Gly Ser Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp |     |         |
| 385                                                             | 390 | 395 400 |
| Asn Pro Pro Thr Phe Ser Pro Ala Leu Leu Val Val Thr Glu Gly Asp |     |         |
| 405                                                             | 410 | 415     |
| Asn Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val |     |         |
| 420                                                             | 425 | 430     |
| Leu Asn Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala |     |         |
| 435                                                             | 440 | 445     |
| Ala Phe Pro Glu Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg |     |         |
| 450                                                             | 455 | 460     |
| Val Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg |     |         |
| 465                                                             | 470 | 475 480 |
| Ala Arg Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu |     |         |
| 485                                                             | 490 | 495     |
| Ala Pro Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val |     |         |
| 500                                                             | 505 | 510     |
| Thr Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro |     |         |
| 515                                                             | 520 | 525     |
| Arg Pro Ala Gly Gln Phe Gln Thr Leu Val                         |     |         |
| 530                                                             | 535 |         |

<210> 23  
 <211> 538  
 <212> PRT  
 <213> Homo sapiens

<400> 23

Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr  
 1 5 10 15

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

Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr  
 35 40 45

Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu  
 50 55 60

Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu  
 65 70 75 80

Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn  
 85 90 95

Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala  
 100 105 110

Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg  
 115 120 125

Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly  
 130 135 140

Gln Phe Gln Thr Leu Val Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 145 150 155 160

Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu  
 165 170 175

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

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp  
195 200 205

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly  
210 215 220

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn  
225 230 235 240

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp  
245 250 255

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro  
260 265 270

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu  
275 280 285

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile  
305 310 315 320

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr  
325 330 335

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys  
340 345 350

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys  
355 360 365

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu  
370 375 380

Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
385 390 395 400

Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln  
405 410 415

Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly  
420 425 430

Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys  
435 440 445

Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu  
450 455 460

Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser  
465 470 475 480

Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val  
485 490 495

Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr  
500 505 510

Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr  
515 520 525

Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr  
530 535

<210> 24  
<211> 616  
<212> PRT  
<213> Homo sapiens

<400> 24

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

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

Tyr Tyr Trp Phe Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Ile Gly Tyr Ile Tyr Gly Ser Gly Gly Gly Thr Asn Tyr Asn Pro Ser  
50 55 60

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

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

Cys Ala Ser Asn Ile Leu Lys Tyr Leu His Trp Leu Leu Tyr Trp Gly  
100 105 110

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

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

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

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

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

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His

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

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro  
465 470 475 480

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

Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn  
500 505 510

Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe  
515 520 525

Pro Glu Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr  
530 535 540

Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg  
545 550 555 560

Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro  
565 570 575

Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu  
580 585 590

Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro

595

600

605

Ala Gly Gln Phe Gln Thr Leu Val  
610 615

&lt;210&gt; 25

&lt;211&gt; 590

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 25

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
65 70 75 80

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

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly Gly Gly Gly Gly Ser Gly Gly  
180 185 190

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
195 200 205

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
210 215 220

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
225 230 235 240

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
245 250 255

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
260 265 270

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
275 280 285

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
290 295 300

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
305 310 315 320

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met  
325 330 335

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
340 345 350

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn  
355 360 365

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
370 375 380

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
385 390 395 400

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
405 410 415

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
420 425 430

Gly Gly Ser Gly Gly Gly Gly Ser Pro Gly Trp Phe Leu Asp Ser Pro  
435 440 445

Asp Arg Pro Trp Asn Pro Pro Thr Phe Ser Pro Ala Leu Leu Val Val  
450 455 460

Thr Glu Gly Asp Asn Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser  
465 470 475 480

Glu Ser Phe Val Leu Asn Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr  
485 490 495

Asp Lys Leu Ala Ala Phe Pro Glu Asp Arg Ser Gln Pro Gly Gln Asp  
500 505 510

Cys Arg Phe Arg Val Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met  
515 520 525

Ser Val Val Arg Ala Arg Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly  
530 535 540

Ala Ile Ser Leu Ala Pro Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala  
545 550 555 560

Glu Leu Arg Val Thr Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro  
565 570 575

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

<210> 26  
<211> 590  
<212> PRT  
<213> Homo sapiens

<400> 26

Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr  
1 5 10 15

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

Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr  
35 40 45

Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu  
50 55 60

Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu  
65 70 75 80

Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn  
85 90 95

Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala  
100 105 110

Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg  
115 120 125

Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly  
130 135 140

Gln Phe Gln Thr Leu Val Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
145 150 155 160

Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu  
165 170 175

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

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp  
195 200 205

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly  
210 215 220

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn  
225 230 235 240

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp  
245 250 255

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro  
260 265 270

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu  
275 280 285

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile  
305 310 315 320

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|-----|-----|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 325 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 330 |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  | 335 |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thr | Pro | Pro | Val | Leu | Asp | Ser | Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Lys |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     |     | 340 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     | 345 |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     | 350 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu | Thr | Val | Asp | Lys | Ser | Arg | Trp | Gln | Gln | Gly | Asn | Val | Phe | Ser | Cys |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 355 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 360 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 365 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ser | Val | Met | His | Glu | Ala | Leu | His | Asn | His | Tyr | Thr | Gln | Lys | Ser | Leu |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 370 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 375 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 380 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ser | Leu | Ser | Pro | Gly | Lys | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 385 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 390 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 395 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 400 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gly | Gly | Gly | Gly | Ser | Gln | Ile | Ala | Pro | Pro | Cys | Thr | Ser | Glu | Lys | His |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     |     | 405 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     | 410 |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     | 415 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tyr | Glu | His | Leu | Gly | Arg | Cys | Cys | Asn | Lys | Cys | Glu | Pro | Gly | Lys | Tyr |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     |     | 420 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     | 425 |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     | 430 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Met | Ser | Ser | Lys | Cys | Thr | Thr | Thr | Ser | Asp | Ser | Val | Cys | Leu | Pro | Cys |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 435 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 440 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 445 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gly | Pro | Asp | Glu | Tyr | Leu | Asp | Ser | Trp | Asn | Glu | Glu | Asp | Lys | Cys | Leu |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 450 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 455 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 460 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu | His | Lys | Val | Cys | Asp | Thr | Gly | Lys | Ala | Leu | Val | Ala | Val | Val | Ala |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 465 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 470 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 475 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 480 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gly | Asn | Ser | Thr | Thr | Pro | Arg | Arg | Cys | Ala | Cys | Thr | Ala | Gly | Tyr | His |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     |     | 485 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     | 490 |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     | 495 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Trp | Ser | Gln | Asp | Cys | Glu | Cys | Cys | Arg | Arg | Asn | Thr | Glu | Cys | Ala | Pro |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 500 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 505 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 510 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gly | Leu | Gly | Ala | Gln | His | Pro | Leu | Gln | Leu | Asn | Lys | Asp | Thr | Val | Cys |     |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |
|     |     | 515 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  | 520 |     |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  | 525 |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |

Lys Pro Cys Leu Ala Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp  
530 535 540

Lys Cys Arg Pro Trp Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu  
545 550 555 560

His His Gly Thr Glu Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro  
565 570 575

Ala Arg Lys Pro Pro Asn Glu Pro His Val Tyr Leu Pro Gly  
580 585 590

<210> 27  
<211> 650  
<212> PRT  
<213> Homo sapiens  
  
<400> 27

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Lys Asp Thr  
20 25 30

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
 450 455 460

Ser Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu  
 465 470 475 480

Gly Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys  
 485 490 495

Cys Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu  
 500 505 510

Tyr Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val  
515 520 525

Cys Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr  
530 535 540

Thr Pro Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp  
545 550 555 560

Cys Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala  
565 570 575

Gln His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu  
580 585 590

Ala Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro  
595 600 605

Trp Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr  
610 615 620

Glu Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro  
625 630 635 640

Pro Asn Glu Pro His Val Tyr Leu Pro Gly  
645 650

<210> 28  
<211> 649  
<212> PRT  
<213> Homo sapiens

<400> 28

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

Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Asn Tyr

|                                                                 |     |     |
|-----------------------------------------------------------------|-----|-----|
| 20                                                              | 25  | 30  |
| Gly Val His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Leu |     |     |
| 35                                                              | 40  | 45  |
| Gly Val Ile Trp Ser Gly Gly Asn Thr Asp Tyr Asn Thr Pro Phe Thr |     |     |
| 50                                                              | 55  | 60  |
| Ser Arg Leu Ser Ile Asn Lys Asp Asn Ser Lys Ser Gln Val Phe Phe |     |     |
| 65                                                              | 70  | 75  |
| Lys Met Asn Ser Leu Gln Ser Asn Asp Thr Ala Ile Tyr Tyr Cys Ala |     |     |
| 85                                                              | 90  | 95  |
| Arg Ala Leu Thr Tyr Tyr Asp Tyr Glu Phe Ala Tyr Trp Gly Gln Gly |     |     |
| 100                                                             | 105 | 110 |
| Thr Leu Val Thr Val Ser Ala 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 |
| 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 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr  
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 Lys Thr Thr Pro Pro Val Leu  
385 390 395 400

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 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 | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser |  |  |
|     | 450 |     |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |  |  |
| Gln | Ile | Ala | Pro | Pro | Cys | Thr | Ser | Glu | Lys | His | Tyr | Glu | His | Leu | Gly |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Arg | Cys | Cys | Asn | Lys | Cys | Glu | Pro | Gly | Lys | Tyr | Met | Ser | Ser | Lys | Cys |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Thr | Thr | Thr | Ser | Asp | Ser | Val | Cys | Leu | Pro | Cys | Gly | Pro | Asp | Glu | Tyr |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Leu | Asp | Ser | Trp | Asn | Glu | Glu | Asp | Lys | Cys | Leu | Leu | His | Lys | Val | Cys |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Asp | Thr | Gly | Lys | Ala | Leu | Val | Ala | Val | Val | Ala | Gly | Asn | Ser | Thr | Thr |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Pro | Arg | Arg | Cys | Ala | Cys | Thr | Ala | Gly | Tyr | His | Trp | Ser | Gln | Asp | Cys |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Glu | Cys | Cys | Arg | Arg | Asn | Thr | Glu | Cys | Ala | Pro | Gly | Leu | Gly | Ala | Gln |  |  |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |  |  |
| His | Pro | Leu | Gln | Leu | Asn | Lys | Asp | Thr | Val | Cys | Lys | Pro | Cys | Leu | Ala |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Gly | Tyr | Phe | Ser | Asp | Ala | Phe | Ser | Ser | Thr | Asp | Lys | Cys | Arg | Pro | Trp |  |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Thr | Asn | Cys | Thr | Phe | Leu | Gly | Lys | Arg | Val | Glu | His | His | Gly | Thr | Glu |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
625 630 635 640

Asn Glu Pro His Val Tyr Leu Pro Gly  
645

<210> 29  
<211> 651  
<212> PRT  
<213> Homo sapiens

<400> 29

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

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

Asn Met His Trp Val Lys Gln Thr Pro Gly Arg Gly Leu Glu Trp Ile  
35 40 45

Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

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

Ala Arg Ser Thr Tyr Tyr Gly Gly Asp Trp Tyr Phe Asn Val Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His  
465 470 475 480

Leu Gly Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser  
485 490 495

Lys Cys Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp  
500 505 510

Glu Tyr Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys  
515 520 525

Val Cys Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser  
530 535 540

Thr Thr Pro Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln  
545 550 555 560

Asp Cys Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly  
565 570 575

Ala Gln His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys  
580 585 590

Leu Ala Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg  
595 600 605

Pro Trp Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly  
610 615 620

Thr Glu Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys  
625 630 635 640

Pro Pro Asn Glu Pro His Val Tyr Leu Pro Gly  
645 650

<210> 30  
<211> 653  
<212> PRT  
<213> Homo sapiens

<400> 30

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

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

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

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe

50

55

60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala 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 Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val  
100 105 110

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

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

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

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

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

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

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys  
210 215 220

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu  
225 230 235 240

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

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

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

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

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu  
305 310 315 320

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

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

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

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

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr  
385 390 395 400

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

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
420 425 430

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
435 440 445

Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly

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

<210> 31  
 <211> 648  
 <212> PRT  
 <213> Homo sapiens

<400> 31

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

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

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

Thr Phe Ile Ser Tyr Asp Gly Asn Asn Lys Tyr Tyr Ala Asp Ser 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 Ile Tyr Tyr Cys  
 85 90 95

Ala Arg Thr Gly Trp Leu Gly Pro Phe Asp 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 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr 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 Lys Thr Thr Pro Pro Val Leu Asp  
385 390 395 400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys 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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln  
450 455 460

Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly Arg  
465 470 475 480

Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys Thr  
485 490 495

Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr Leu  
500 505 510

Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys Asp  
515 520 525

Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr Pro  
530 535 540

Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys Glu  
545 550 555 560

Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln His  
565 570 575

Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala Gly  
580 585 590

Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp Thr  
595 600 605

Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu Lys  
610 615 620

Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro Asn  
625 630 635 640

Glu Pro His Val Tyr Leu Pro Gly  
645

<210> 32  
<211> 646  
<212> PRT  
<213> Homo sapiens

<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 Thr Phe Thr Ser Tyr  
20 25 30

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

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

Lys Asp Lys Ala Thr Ile Thr Ala Asp Glu Ser Thr Asn 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 | Arg | Gly | Gly | Gly | Val | Phe | Asp | Tyr | Trp | Gly | Gln | Gly | Thr | Leu | Val |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe | Pro | Leu | Ala |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Pro | Ser | Ser | Lys | Ser | Thr | Ser | Gly | Gly | Thr | Ala | Ala | Leu | Gly | Cys | Leu |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | Trp | Asn | Ser | Gly |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val | Leu | Gln | Ser | Ser |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val | Thr | Val | Pro | Ser | Ser | Ser | Leu |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Gly | Thr | Gln | Thr | Tyr | Ile | Cys | Asn | Val | Asn | His | Lys | Pro | Ser | Asn | Thr |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Lys | Val | Asp | Lys | Lys | Val | Glu | Pro | Lys | Ser | Cys | Asp | Lys | Thr | His | Thr |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Cys | Pro | Pro | Cys | Pro | Ala | Pro | Glu | Leu | Leu | Gly | Gly | Pro | Ser | Val | Phe |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr | Pro |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu | Asp | Pro | Glu | Val |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Lys | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys | Thr |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |

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

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

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

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

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

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

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

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

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

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

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ile Ala  
450 455 460

Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly Arg Cys Cys  
465 470 475 480

Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys Thr Thr Thr

485

490

495

Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr Leu Asp Ser  
500 505 510

Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys Asp Thr Gly  
515 520 525

Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr Pro Arg Arg  
530 535 540

Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys Glu Cys Cys  
545 550 555 560

Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln His Pro Leu  
565 570 575

Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala Gly Tyr Phe  
580 585 590

Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp Thr Asn Cys  
595 600 605

Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu Lys Ser Asp  
610 615 620

Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro Asn Glu Pro  
625 630 635 640

His Val Tyr Leu Pro Gly  
645

<210> 33

<211> 645

<212> PRT

<213> Homo sapiens

<400> 33

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

Lys Met Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Arg Tyr Trp Met  
 20 25 30

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

Ile Tyr Pro Gly Asn Ser Asp Thr Ser Tyr Asn Gln Lys Phe Glu Gly  
 50 55 60

Lys Ala Lys Leu Thr Ala Val Thr Ser Ala Ser Thr Ala Tyr Met Glu  
 65 70 75 80

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

Asp Tyr Gly Tyr Tyr Phe Asp Phe Trp Gly Gln Gly Thr Thr Leu Thr  
 100 105 110

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

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val  
 130 135 140

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ile Ala Pro  
450 455 460

Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly Arg Cys Cys Asn  
465 470 475 480

Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys Thr Thr Thr Ser  
485 490 495

Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr Leu Asp Ser Trp  
500 505 510

Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys Asp Thr Gly Lys  
515 520 525

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

Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys Glu Cys Cys Arg  
545 550 555 560

Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln His Pro Leu Gln  
565 570 575

Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala Gly Tyr Phe Ser  
580 585 590

Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp Thr Asn Cys Thr  
595 600 605

Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu Lys Ser Asp Ala  
610 615 620

Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro Asn Glu Pro His  
625 630 635 640

Val Tyr Leu Pro Gly  
645

<210> 34  
<211> 573  
<212> PRT  
<213> Homo sapiens

<400> 34

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 Gly<br>130 | Gly Gly Gly Ser Gly<br>135     | Gly Gly Gly Ser Gly<br>140     |
| Gly Gly Gly Ser Thr<br>145     | His Thr Cys Pro Pro<br>150     | Cys Pro Ala Pro Glu Leu<br>155 |
| Leu Gly Gly Pro Ser Val<br>165 | Phe Leu Phe Pro Pro<br>170     | Lys Pro Lys Asp Thr<br>175     |
| Leu Met Ile Ser Arg Thr<br>180 | Pro Glu Val Thr Cys Val<br>185 | Val Val Val Asp Val<br>190     |
| Ser His Glu Asp Pro Glu<br>195 | Val Lys Phe Asn Trp Tyr<br>200 | Val Asp Gly Val<br>205         |
| Glu Val His Asn Ala Lys<br>210 | Thr Lys Pro Arg Glu<br>215     | Glu Gln Tyr Asn Ser<br>220     |
| Thr Tyr Arg Val Val Ser<br>225 | Val Leu Thr Val Leu<br>230     | His Gln Asp Trp Leu<br>235     |
| Asn Gly Lys Glu Tyr Lys<br>245 | Cys Lys Val Ser Asn<br>250     | Lys Ala Leu Pro Ala<br>255     |
| Pro Ile Glu Lys Thr Ile<br>260 | Ser Lys Ala Lys Gly<br>265     | Gln Pro Arg Glu Pro<br>270     |
| Gln Val Tyr Thr Leu Pro<br>275 | Pro Ser Arg Glu Glu<br>280     | Met Thr Lys Asn Gln<br>285     |
| Val Ser Leu Thr Cys Leu<br>290 | Val Lys Gly Phe Tyr<br>295     | Pro Ser Asp Ile Ala<br>300     |
| Val Glu Trp Glu Ser Asn<br>305 | Gly Gln Pro Glu Asn<br>310     | Asn Tyr Lys Thr Thr<br>315     |
|                                |                                |                                |

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu  
325 330 335

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
340 345 350

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
355 360 365

Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
370 375 380

Gly Gly Gly Ser Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr  
385 390 395 400

Glu His Leu Gly Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met  
405 410 415

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

Pro Asp Glu Tyr Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu  
435 440 445

His Lys Val Cys Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly  
450 455 460

Asn Ser Thr Thr Pro Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp  
465 470 475 480

Ser Gln Asp Cys Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly  
485 490 495

Leu Gly Ala Gln His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys  
500 505 510

Pro Cys Leu Ala Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys

515

520

525

Cys Arg Pro Trp Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His  
 530 535 540

His Gly Thr Glu Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala  
 545 550 555 560

Arg Lys Pro Pro Asn Glu Pro His Val Tyr Leu Pro Gly  
 565 570

<210> 35

<211> 573

<212> PRT

<213> Homo sapiens

<400> 35

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
 1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
 20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
 35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
 50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
 65 70 75 80

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

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
 100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly Gly Gly Gly Gly Ser Gly Gly  
180 185 190

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
195 200 205

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
210 215 220

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
225 230 235 240

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
245 250 255

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
260 265 270

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
275 280 285

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
290 295 300

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
305 310 315 320

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met  
325 330 335

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
340 345 350

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn  
355 360 365

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
370 375 380

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
385 390 395 400

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
405 410 415

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
420 425 430

Gly Gly Ser Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys  
435 440 445

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile  
450 455 460

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu  
465 470 475 480

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu  
485 490 495

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu  
500 505 510

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn  
515 520 525

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

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg  
545 550 555 560

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr  
565 570

<210> 36  
<211> 651  
<212> PRT  
<213> Homo sapiens

<400> 36

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

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

Tyr Tyr Trp Phe Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Ile Gly Tyr Ile Tyr Gly Ser Gly Gly Gly Thr Asn Tyr Asn Pro Ser  
50 55 60

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

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

Cys Ala Ser Asn Ile Leu Lys Tyr Leu His Trp Leu Leu Tyr Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     | 310 |     | 315 |     | 320 |     |     |     |     |     |     |     |     |     |
| Lys | Glu | Tyr | Lys | Cys | Lys | Val | Ser | Asn | Lys | Ala | Leu | Pro | Ala | Pro | Ile |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Glu | Lys | Thr | Ile | Ser | Lys | Ala | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Tyr | Thr | Leu | Pro | Pro | Ser | Arg | Asp | Glu | Leu | Thr | Lys | Asn | Gln | Val | Ser |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Leu | Thr | Cys | Leu | Val | Lys | Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Trp | Glu | Ser | Asn | Gly | Gln | Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Val | Leu | Asp | Ser | Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Lys | Leu | Thr | Val |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Asp | Lys | Ser | Arg | Trp | Gln | Gln | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| His | Glu | Ala | Leu | His | Asn | His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Pro | Gly | Lys | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gly | Ser | Gln | Ile | Ala | Pro | Pro | Cys | Thr | Ser | Glu | Lys | His | Tyr | Glu | His |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Leu | Gly | Arg | Cys | Cys | Asn | Lys | Cys | Glu | Pro | Gly | Lys | Tyr | Met | Ser | Ser |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Lys | Cys | Thr | Thr | Thr | Ser | Asp | Ser | Val | Cys | Leu | Pro | Cys | Gly | Pro | Asp |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |

Glu Tyr Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys  
515 520 525

Val Cys Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser  
530 535 540

Thr Thr Pro Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln  
545 550 555 560

Asp Cys Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly  
565 570 575

Ala Gln His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys  
580 585 590

Leu Ala Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg  
595 600 605

Pro Trp Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly  
610 615 620

Thr Glu Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys  
625 630 635 640

Pro Pro Asn Glu Pro His Val Tyr Leu Pro Gly  
645 650

<210> 37  
<211> 755  
<212> PRT  
<213> Homo sapiens

<400> 37

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

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

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

Ser Ala Ile Thr Trp Asn Ser Gly His Ile Asp Tyr Ala Asp Ser Val  
50 55 60

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

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

Ala Leu Val Ser Tyr Leu Ser Thr Ala Ser Ser Leu Asp Tyr Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu  
465 470 475 480

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

Tyr Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln  
500 505 510

Leu Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn  
515 520 525

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

Ser Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly  
545 550 555 560

Asn Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val  
565 570 575

Tyr Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr  
580 585 590

Val Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val  
595 600 605

Val Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly  
610 615 620

Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu  
625 630 635 640

Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe  
645 650 655

Asn Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe  
660 665 670

Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu  
675 680 685

Leu Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr  
690 695 700

His Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu  
705 710 715 720

Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys  
725 730 735

Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu  
740 745 750

Glu Glu Thr  
755

<210> 38  
<211> 771  
<212> PRT  
<213> Homo sapiens

<400> 38

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

Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys Cys  
20 25 30

Ser Lys Cys Ser Pro Gly Gln His Ala Lys Val Phe Cys Thr Lys Thr  
35 40 45

Ser Asp Thr Val Cys Asp Ser Cys Glu Asp Ser Thr Tyr Thr Gln Leu  
50 55 60

Trp Asn Trp Val Pro Glu Cys Leu Ser Cys Gly Ser Arg Cys Ser Ser  
65 70 75 80

Asp Gln Val Glu Thr Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile Cys  
85 90 95

Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly Cys  
100 105 110

Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg Pro Gly Phe Gly Val Ala  
115 120 125

Arg Pro Gly Thr Glu Thr Ser Asp Val Val Cys Lys Pro Cys Ala Pro  
130 135 140

Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro His  
145 150 155 160

Gln Ile Cys Asn Val Val Ala Ile Pro Gly Asn Ala Ser Met Asp Ala  
165 170 175

Val Cys Thr Ser Thr Ser Pro Thr Arg Ser Met Ala Pro Gly Ala Val  
180 185 190

His Leu Pro Gln Pro Val Ser Thr Arg Ser Gln His Thr Gln Pro Thr  
195 200 205

Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser Phe Leu Leu Pro Met Gly  
210 215 220

Pro Ser Pro Pro Ala Glu Gly Ser Thr Gly Asp Glu Pro Lys Ser Cys

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

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

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
465 470 475 480

Gly Ser Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu  
485 490 495

Leu Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu  
500 505 510

Tyr Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln  
515 520 525

Leu Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn  
530 535 540

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

Ser Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly  
565 570 575

Asn Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val  
580 585 590

Tyr Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr  
595 600 605

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

Val Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly

625                                  630                                  635                                  640

Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu  
645                                  650                                  655

Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe  
660                                  665                                  670

Asn Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe  
675                                  680                                  685

Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu  
690                                  695                                  700

Leu Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr  
705                                  710                                  715                                  720

His Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu  
725                                  730                                  735

Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys  
740                                  745                                  750

Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu  
755                                  760                                  765

Glu Glu Thr  
770

<210> 39  
<211> 787  
<212> PRT  
<213> Homo sapiens

<400> 39

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu  
1                                  5                                  10                                  15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr  
20 25 30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu  
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile  
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser  
65 70 75 80

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

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

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val  
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val  
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr  
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser  
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn  
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr  
195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu  
210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
 225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr  
 245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys  
 260 265 270

Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu  
 275 280 285

Glu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
 290 295 300

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
530 535 540

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

Pro Tyr Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr  
565 570 575

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

Ala Lys Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys Asp Ser Cys  
595 600 605

Glu Asp Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro Glu Cys Leu  
610 615 620

Ser Cys Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr Gln Ala Cys  
625 630 635 640

Thr Arg Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly Trp Tyr Cys  
645 650 655

Ala Leu Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro Leu Arg Lys  
660 665 670

Cys Arg Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu Thr Ser Asp  
675 680 685

Val Val Cys Lys Pro Cys Ala Pro Gly Thr Phe Ser Asn Thr Thr Ser  
690 695 700

Ser Thr Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val Val Ala Ile  
705 710 715 720

Pro Gly Asn Ala Ser Met Asp Ala Val Cys Thr Ser Thr Ser Pro Thr  
725 730 735

Arg Ser Met Ala Pro Gly Ala Val His Leu Pro Gln Pro Val Ser Thr  
740 745 750

Arg Ser Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr Ala Pro Ser  
755 760 765

Thr Ser Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala Glu Gly Ser  
770 775 780

Thr Gly Asp  
785

<210> 40  
<211> 755  
<212> PRT  
<213> Homo sapiens

<400> 40

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

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

Asn Met His Trp Val Lys Gln Thr Pro Gly Arg Gly Leu Glu Trp Ile  
35 40 45

Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

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

Ala Arg Ser Thr Tyr Tyr Gly Gly Asp Trp Tyr Phe Asn Val Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro

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

Val Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val  
595 600 605

Val Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly  
610 615 620

Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu  
625 630 635 640

Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe  
645 650 655

Asn Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe  
660 665 670

Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu  
675 680 685

Leu Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr  
690 695 700

His Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu  
705 710 715 720

Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys  
725 730 735

Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu  
740 745 750

Glu Glu Thr  
755

<210> 41  
<211> 750  
<212> PRT  
<213> Homo sapiens

<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 Thr Phe Thr Ser Tyr  
20 25 30

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

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

Lys Asp Lys Ala Thr Ile Thr Ala Asp Glu Ser Thr Asn 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 Arg Gly Gly Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val  
100 105 110

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

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

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

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

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

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

Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr  
210 215 220

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg Ile Phe  
450 455 460

Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu Asn Ala Phe Thr  
465 470 475 480

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

Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu Asp Leu Ala Ala  
500 505 510

Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile Ile Gln Phe Val  
515 520 525

His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser Tyr Arg Gln Arg  
530 535 540

Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn Ala Ala Leu Gln  
545 550 555 560

Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr Arg Cys Met Ile  
565 570 575

Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val Lys Val Asn Ala  
580 585 590

Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val Asp Pro Val Thr  
595 600 605

Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr Pro Lys Ala Glu  
610 615 620

Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly Lys Thr Thr  
625 630 635 640

Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val Thr Ser Thr  
645 650 655

Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr Cys Thr Phe Arg  
660 665 670

Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val Ile Pro Glu  
675 680 685

Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His Leu Val Ile Leu  
690 695 700

Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr Phe Ile Phe Arg  
705 710 715 720

Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly Ile Gln Asp  
725 730 735

Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu Thr  
740 745 750

<210> 42  
<211> 749  
<212> PRT  
<213> Homo sapiens

<400> 42

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

Lys Met Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Arg Tyr Trp Met  
20 25 30

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

Ile Tyr Pro Gly Asn Ser Asp Thr Ser Tyr Asn Gln Lys Phe Glu Gly  
50 55 60

Lys Ala Lys Leu Thr Ala Val Thr Ser Ala Ser Thr Ala Tyr Met Glu  
65 70 75 80

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

Asp Tyr Gly Tyr Tyr Phe Asp Phe Trp Gly Gln Gly Thr Thr Leu Thr  
100 105 110

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

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val  
130 135 140

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

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

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

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

Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys

210

215

220

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg Ile Phe Ala  
450 455 460

Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu Asn Ala Phe Thr Val  
465 470 475 480

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

Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu Asp Leu Ala Ala Leu  
500 505 510

Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile Ile Gln Phe Val His  
515 520 525

Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser Tyr Arg Gln Arg Ala  
530 535 540

Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn Ala Ala Leu Gln Ile  
545 550 555 560

Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr Arg Cys Met Ile Ser  
565 570 575

Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val Lys Val Asn Ala Pro  
580 585 590

Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val Asp Pro Val Thr Ser  
595 600 605

Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr Pro Lys Ala Glu Val

610

615

620

Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly Lys Thr Thr Thr  
 625 630 635 640

Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val Thr Ser Thr Leu  
 645 650 655

Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr Cys Thr Phe Arg Arg  
 660 665 670

Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val Ile Pro Glu Leu  
 675 680 685

Pro Leu Ala His Pro Pro Asn Glu Arg Thr His Leu Val Ile Leu Gly  
 690 695 700

Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr Phe Ile Phe Arg Leu  
 705 710 715 720

Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly Ile Gln Asp Thr  
 725 730 735

Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu Thr  
 740 745

<210> 43  
 <211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 43

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu  
 1 5 10 15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr  
 20 25 30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu  
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile  
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser  
65 70 75 80

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

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

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val  
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val  
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr  
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser  
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn  
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr  
195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu  
210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr  
245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys  
260 265 270

Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu  
275 280 285

Glu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
290 295 300

Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
305 310 315 320

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
325 330 335

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
340 345 350

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

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
370 375 380

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
385 390 395 400

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
405 410 415

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
420 425 430

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

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
450 455 460

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
465 470 475 480

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
485 490 495

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
500 505 510

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
515 520 525

Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly  
530 535 540

Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu  
545 550 555 560

His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr  
565 570 575

Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro  
580 585 590

Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu  
595 600 605

Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His  
610 615 620

Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu  
625 630 635 640

Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr  
645 650 655

Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser  
660 665 670

Ile Ile Ser Thr Leu Thr  
675

<210> 44  
<211> 677  
<212> PRT  
<213> Homo sapiens

<400> 44

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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly |     |     |     |     |
| 130                                                             |     | 135 |     | 140 |
| Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu |     |     |     |     |
| 145                                                             |     | 150 |     | 155 |
| Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr |     |     |     |     |
|                                                                 | 165 |     | 170 | 175 |
| Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val |     |     |     |     |
|                                                                 | 180 |     | 185 | 190 |
| Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val |     |     |     |     |
|                                                                 | 195 |     | 200 | 205 |
| Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser |     |     |     |     |
|                                                                 | 210 |     | 215 | 220 |
| Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu |     |     |     |     |
|                                                                 | 225 |     | 230 | 235 |
| Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala |     |     |     |     |
|                                                                 |     | 245 | 250 | 255 |
| Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro |     |     |     |     |
|                                                                 | 260 |     | 265 | 270 |
| Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln |     |     |     |     |
|                                                                 | 275 |     | 280 | 285 |
| Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala |     |     |     |     |
|                                                                 | 290 |     | 295 | 300 |
| Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr |     |     |     |     |
|                                                                 | 305 |     | 310 | 315 |
|                                                                 |     |     |     | 320 |

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu  
325 330 335

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
340 345 350

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
355 360 365

Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
370 375 380

Gly Gly Gly Ser Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp  
385 390 395 400

His Leu Leu Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val  
405 410 415

Val Glu Tyr Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu  
420 425 430

Lys Gln Leu Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp  
435 440 445

Lys Asn Ile Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln  
450 455 460

His Ser Ser Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser  
465 470 475 480

Leu Gly Asn Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala  
485 490 495

Gly Val Tyr Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg  
500 505 510

Ile Thr Val Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile

515

520

525

Leu Val Val Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala  
 530 535 540

Glu Gly Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln  
 545 550 555 560

Val Leu Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys  
 565 570 575

Leu Phe Asn Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu  
 580 585 590

Ile Phe Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr  
 595 600 605

Ala Glu Leu Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu  
 610 615 620

Arg Thr His Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val  
 625 630 635 640

Ala Leu Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val  
 645 650 655

Lys Lys Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr  
 660 665 670

His Leu Glu Glu Thr  
 675

<210> 45

<211> 755

<212> PRT

<213> Homo sapiens

<400> 45

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

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

Tyr Tyr Trp Phe Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Ile Gly Tyr Ile Tyr Gly Ser Gly Gly Gly Thr Asn Tyr Asn Pro Ser  
50 55 60

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

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

Cys Ala Ser Asn Ile Leu Lys Tyr Leu His Trp Leu Leu Tyr Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu  
465 470 475 480

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

Tyr Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln  
500 505 510

Leu Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn  
515 520 525

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

Ser Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly  
545 550 555 560

Asn Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val  
565 570 575

Tyr Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr  
580 585 590

Val Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val  
595 600 605

Val Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly  
610 615 620

Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu  
625 630 635 640

Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe  
645 650 655

Asn Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe  
660 665 670

Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu  
675 680 685

Leu Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr  
690 695 700

His Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu  
705 710 715 720

Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys  
725 730 735

Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu  
740 745 750

Glu Glu Thr  
755

<210> 46  
<211> 687  
<212> PRT  
<213> Homo sapiens

<400> 46

Met Gly Val Leu Leu Thr Gln Arg Thr Leu Leu Ser Leu Val Leu Ala

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 1   |     |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |  |
| Leu | Leu | Phe | Pro | Ser | Met | Ala | Ser | Met | Ala | Met | His | Val | Ala | Gln | Pro |     |  |  |  |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |     |  |  |  |
| Ala | Val | Val | Leu | Ala | Ser | Ser | Arg | Gly | Ile | Ala | Ser | Phe | Val | Cys | Glu |     |  |  |  |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |  |
| Tyr | Ala | Ser | Pro | Gly | Lys | Ala | Thr | Glu | Val | Arg | Val | Thr | Val | Leu | Arg |     |  |  |  |
|     |     |     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |  |  |  |
| Gln | Ala | Asp | Ser | Gln | Val | Thr | Glu | Val | Cys | Ala | Ala | Thr | Tyr | Met | Met |     |  |  |  |
|     |     |     | 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     | 80  |  |  |  |
| Gly | Asn | Glu | Leu | Thr | Phe | Leu | Asp | Asp | Ser | Ile | Cys | Thr | Gly | Thr | Ser |     |  |  |  |
|     |     |     | 85  |     |     |     |     |     |     | 90  |     |     |     |     |     | 95  |  |  |  |
| Ser | Gly | Asn | Gln | Val | Asn | Leu | Thr | Ile | Gln | Gly | Leu | Arg | Ala | Met | Asp |     |  |  |  |
|     |     |     | 100 |     |     |     |     |     |     | 105 |     |     |     |     |     | 110 |  |  |  |
| Thr | Gly | Leu | Tyr | Ile | Cys | Lys | Val | Glu | Leu | Met | Tyr | Pro | Pro | Pro | Tyr |     |  |  |  |
|     |     |     | 115 |     |     |     |     |     |     | 120 |     |     |     |     |     | 125 |  |  |  |
| Tyr | Leu | Gly | Ile | Gly | Asn | Gly | Thr | Gln | Ile | Tyr | Val | Ile | Asp | Pro | Glu |     |  |  |  |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |  |  |  |
| Pro | Cys | Pro | Asp | Ser | Asp | Gln | Glu | Pro | Lys | Ser | Cys | Asp | Lys | Thr | His |     |  |  |  |
|     |     |     | 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     | 160 |  |  |  |
| Thr | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Glu | Leu | Leu | Gly | Gly | Pro | Ser | Val |     |  |  |  |
|     |     |     | 165 |     |     |     |     |     |     | 170 |     |     |     |     |     | 175 |  |  |  |
| Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr |     |  |  |  |
|     |     |     | 180 |     |     |     |     |     |     | 185 |     |     |     |     |     | 190 |  |  |  |
| Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu | Asp | Pro | Glu |     |  |  |  |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |  |

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
210 215 220

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

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
245 250 255

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile  
260 265 270

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
275 280 285

Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
290 295 300

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
305 310 315 320

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
325 330 335

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg  
340 345 350

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
355 360 365

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly  
370 375 380

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg Ile  
385 390 395 400

Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu Asn Ala Phe

|                                                                 |     |     |
|-----------------------------------------------------------------|-----|-----|
| 405                                                             | 410 | 415 |
| Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr Gly Ser Asn |     |     |
| 420                                                             | 425 | 430 |
| Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu Asp Leu Ala |     |     |
| 435                                                             | 440 | 445 |
| Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile Ile Gln Phe |     |     |
| 450                                                             | 455 | 460 |
| Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser Tyr Arg Gln |     |     |
| 465                                                             | 470 | 475 |
| Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn Ala Ala Leu |     |     |
| 485                                                             | 490 | 495 |
| Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr Arg Cys Met |     |     |
| 500                                                             | 505 | 510 |
| Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val Lys Val Asn |     |     |
| 515                                                             | 520 | 525 |
| Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val Asp Pro Val |     |     |
| 530                                                             | 535 | 540 |
| Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr Pro Lys Ala |     |     |
| 545                                                             | 550 | 555 |
| Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly Lys Thr |     |     |
| 565                                                             | 570 | 575 |
| Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val Thr Ser |     |     |
| 580                                                             | 585 | 590 |
| Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr Cys Thr Phe |     |     |
| 595                                                             | 600 | 605 |

Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val Ile Pro  
610 615 620

Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His Leu Val Ile  
625 630 635 640

Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr Phe Ile Phe  
645 650 655

Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly Ile Gln  
660 665 670

Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu Thr  
675 680 685

<210> 47  
<211> 678  
<212> PRT  
<213> Homo sapiens

<400> 47

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu  
1 5 10 15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr  
20 25 30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu  
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile  
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser  
65 70 75 80

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

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

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val  
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val  
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr  
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser  
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn  
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr  
195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu  
210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr  
245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys  
260 265 270

Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu  
275 280 285

Glu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
290 295 300

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly  
530 535 540

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Met His Val Ala Gln Pro  
545 550 555 560

Ala Val Val Leu Ala Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu  
565 570 575

Tyr Ala Ser Pro Gly Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg  
580 585 590

Gln Ala Asp Ser Gln Val Thr Glu Val Cys Ala Ala Thr Tyr Met Met  
595 600 605

Gly Asn Glu Leu Thr Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser  
610 615 620

Ser Gly Asn Gln Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp  
625 630 635 640

Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr  
645 650 655

Tyr Leu Gly Ile Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu  
660 665 670

Pro Cys Pro Asp Ser Asp  
675

<210> 48  
 <211> 656  
 <212> PRT  
 <213> Homo sapiens

<400> 48

Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys  
 1 5 10 15

Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp  
 20 25 30

Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys  
 35 40 45

Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu  
 50 55 60

Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro  
 65 70 75 80

Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro  
 85 90 95

Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
 100 105 110

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

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser  
 130 135 140

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg  
 145 150 155 160

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro  
 165 170 175

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala  
180 185 190

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

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr  
210 215 220

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr  
225 230 235 240

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

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys  
260 265 270

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser  
275 280 285

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp  
290 295 300

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser  
305 310 315 320

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala  
325 330 335

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
340 345 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg  
355 360 365

Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu Asn Ala

370

375

380

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

Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu Asp Leu  
 405 410 415

Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile Ile Gln  
 420 425 430

Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser Tyr Arg  
 435 440 445

Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn Ala Ala  
 450 455 460

Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr Arg Cys  
 465 470 475 480

Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val Lys Val  
 485 490 495

Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val Asp Pro  
 500 505 510

Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr Pro Lys  
 515 520 525

Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly Lys  
 530 535 540

Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val Thr  
 545 550 555 560

Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr Cys Thr  
 565 570 575

Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val Ile  
580 585 590

Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His Leu Val  
595 600 605

Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr Phe Ile  
610 615 620

Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly Ile  
625 630 635 640

Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu Thr  
645 650 655

<210> 49  
<211> 657  
<212> PRT  
<213> Homo sapiens  
  
<400> 49

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu  
1 5 10 15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr  
20 25 30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu  
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile  
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser  
65 70 75 80

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

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

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val  
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val  
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr  
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser  
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn  
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr  
195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu  
210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr  
245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys  
260 265 270

Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu  
275 280 285

Glu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
290 295 300

Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
305 310 315 320

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
325 330 335

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
340 345 350

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

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
370 375 380

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
385 390 395 400

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
405 410 415

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
420 425 430

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

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
450 455 460

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
465 470 475 480

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
485 490 495

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
500 505 510

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
515 520 525

Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly  
530 535 540

Ser Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys  
545 550 555 560

Cys Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys  
565 570 575

Trp Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro  
580 585 590

Cys Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala  
595 600 605

Leu Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val  
610 615 620

Pro Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys  
625 630 635 640

Pro Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys  
645 650 655

Ser

<210> 50  
<211> 578  
<212> PRT  
<213> Homo sapiens

<400> 50

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

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

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

Ser Ala Ile Thr Trp Asn Ser Gly His Ile Asp Tyr Ala Asp Ser Val  
50 55 60

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

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

Ala Leu Val Ser Tyr Leu Ser Thr Ala Ser Ser Leu Asp Tyr Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 385 |     | 390 |     | 395 |     | 400 |     |     |     |     |     |     |     |     |     |
| Val | Leu | Asp | Ser | Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Lys | Leu | Thr | Val |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Asp | Lys | Ser | Arg | Trp | Gln | Gln | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| His | Glu | Ala | Leu | His | Asn | His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Pro | Gly | Lys | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gly | Ser | Ala | Leu | Asp | Thr | Asn | Tyr | Cys | Phe | Ser | Ser | Thr | Glu | Lys | Asn |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Cys | Cys | Val | Arg | Gln | Leu | Tyr | Ile | Asp | Phe | Arg | Lys | Asp | Leu | Gly | Trp |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Lys | Trp | Ile | His | Glu | Pro | Lys | Gly | Tyr | His | Ala | Asn | Phe | Cys | Leu | Gly |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Pro | Cys | Pro | Tyr | Ile | Trp | Ser | Leu | Asp | Thr | Gln | Tyr | Ser | Lys | Val | Leu |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Ala | Leu | Tyr | Asn | Gln | His | Asn | Pro | Gly | Ala | Ser | Ala | Ala | Pro | Cys | Cys |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Val | Pro | Gln | Ala | Leu | Glu | Pro | Leu | Pro | Ile | Val | Tyr | Tyr | Val | Gly | Arg |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Lys | Pro | Lys | Val | Glu | Gln | Leu | Ser | Asn | Met | Ile | Val | Arg | Ser | Cys | Lys |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Cys | Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 51  
<211> 594  
<212> PRT  
<213> Homo sapiens

<400> 51

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

Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys Cys  
20 25 30

Ser Lys Cys Ser Pro Gly Gln His Ala Lys Val Phe Cys Thr Lys Thr  
35 40 45

Ser Asp Thr Val Cys Asp Ser Cys Glu Asp Ser Thr Tyr Thr Gln Leu  
50 55 60

Trp Asn Trp Val Pro Glu Cys Leu Ser Cys Gly Ser Arg Cys Ser Ser  
65 70 75 80

Asp Gln Val Glu Thr Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile Cys  
85 90 95

Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly Cys  
100 105 110

Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg Pro Gly Phe Gly Val Ala  
115 120 125

Arg Pro Gly Thr Glu Thr Ser Asp Val Val Cys Lys Pro Cys Ala Pro  
130 135 140

Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro His  
145 150 155 160

Gln Ile Cys Asn Val Val Ala Ile Pro Gly Asn Ala Ser Met Asp Ala  
165 170 175

Val Cys Thr Ser Thr Ser Pro Thr Arg Ser Met Ala Pro Gly Ala Val  
180 185 190

His Leu Pro Gln Pro Val Ser Thr Arg Ser Gln His Thr Gln Pro Thr  
195 200 205

Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser Phe Leu Leu Pro Met Gly  
210 215 220

Pro Ser Pro Pro Ala Glu Gly Ser Thr Gly Asp Glu Pro Lys Ser Cys  
225 230 235 240

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly  
245 250 255

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met  
260 265 270

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His  
275 280 285

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val  
420 425 430

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

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
465 470 475 480

Gly Ser Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn  
485 490 495

Cys Cys Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp  
500 505 510

Lys Trp Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly  
515 520 525

Pro Cys Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu  
530 535 540

Ala Leu Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys  
545 550 555 560

Val Pro Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg  
565 570 575

Lys Pro Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys  
580 585 590

Cys Ser

<210> 52  
<211> 602  
<212> PRT  
<213> Homo sapiens

<400> 52

Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys  
1 5 10 15

Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp  
20 25 30

Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys  
35 40 45

Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu  
50 55 60

Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro  
65 70 75 80

Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro  
85 90 95

Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
100 105 110

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

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser

|         |     |     |         |         |
|---------|-----|-----|---------|---------|
| 130     |     | 135 |         | 140     |
| Val 145 | Phe | Leu | Phe     | Pro     |
|         |     |     | Pro 150 | Lys     |
|         |     |     |         | Pro     |
|         |     |     |         | Lys     |
|         |     |     |         | Asp     |
|         |     |     |         | Thr 155 |
|         |     |     |         | Leu     |
|         |     |     |         | Met     |
|         |     |     |         | Ile     |
|         |     |     |         | Ser     |
|         |     |     |         | Arg 160 |
| Thr     | Pro | Glu | Val     | Thr     |
|         |     |     |         | Cys 165 |
|         |     |     |         | Val     |
|         |     |     |         | Val     |
|         |     |     |         | Val     |
|         |     |     |         | Asp 170 |
|         |     |     |         | Val     |
|         |     |     |         | Ser     |
|         |     |     |         | His     |
|         |     |     |         | Glu     |
|         |     |     |         | Asp 175 |
| Glu     | Val | Lys | Phe     | Asn     |
|         |     |     |         | Trp     |
|         |     |     |         | Tyr     |
|         |     |     |         | Val     |
|         |     |     |         | Asp     |
|         |     |     |         | Gly 185 |
|         |     |     |         | Val     |
|         |     |     |         | Glu     |
|         |     |     |         | Val     |
|         |     |     |         | His     |
|         |     |     |         | Asn     |
|         |     |     |         | Ala 190 |
| Lys     | Thr | Lys | Pro     | Arg     |
|         |     |     |         | Glu     |
|         |     |     |         | Glu     |
|         |     |     |         | Gln     |
|         |     |     |         | Tyr     |
|         |     |     |         | Asn     |
|         |     |     |         | Ser     |
|         |     |     |         | Thr     |
|         |     |     |         | Tyr     |
|         |     |     |         | Arg     |
|         |     |     |         | Val     |
|         |     |     |         | Val 200 |
| Ser     | Val | Leu | Thr     | Val     |
|         |     |     |         | Leu     |
|         |     |     |         | His     |
|         |     |     |         | Gln     |
|         |     |     |         | Asp     |
|         |     |     |         | Trp     |
|         |     |     |         | Leu     |
|         |     |     |         | Asn     |
|         |     |     |         | Gly 220 |
|         |     |     |         | Lys     |
|         |     |     |         | Glu     |
|         |     |     |         | Tyr     |
| Lys     | Cys | Lys | Val     | Ser     |
|         |     |     |         | Asn     |
|         |     |     |         | Lys     |
|         |     |     |         | Ala     |
|         |     |     |         | Leu     |
|         |     |     |         | Pro     |
|         |     |     |         | Ala     |
|         |     |     |         | Pro     |
|         |     |     |         | Ile     |
|         |     |     |         | Glu     |
|         |     |     |         | Lys     |
|         |     |     |         | Thr 240 |
| Ile     | Ser | Lys | Ala     | Lys     |
|         |     |     |         | Gly     |
|         |     |     |         | Gln     |
|         |     |     |         | Pro     |
|         |     |     |         | Arg     |
|         |     |     |         | Glu     |
|         |     |     |         | Pro     |
|         |     |     |         | Gln     |
|         |     |     |         | Val     |
|         |     |     |         | Tyr     |
|         |     |     |         | Thr     |
|         |     |     |         | Leu 255 |
| Pro     | Pro | Ser | Arg     | Glu     |
|         |     |     |         | Glu     |
|         |     |     |         | Met     |
|         |     |     |         | Thr     |
|         |     |     |         | Lys     |
|         |     |     |         | Asn     |
|         |     |     |         | Gln     |
|         |     |     |         | Val     |
|         |     |     |         | Ser     |
|         |     |     |         | Leu     |
|         |     |     |         | Thr     |
|         |     |     |         | Cys 270 |
| Leu     | Val | Lys | Gly     | Phe     |
|         |     |     |         | Tyr     |
|         |     |     |         | Pro     |
|         |     |     |         | Ser     |
|         |     |     |         | Asp     |
|         |     |     |         | Ile     |
|         |     |     |         | Ala     |
|         |     |     |         | Val     |
|         |     |     |         | Glu     |
|         |     |     |         | Trp     |
|         |     |     |         | Glu     |
|         |     |     |         | Ser 285 |
| Asn     | Gly | Gln | Pro     | Glu     |
|         |     |     |         | Asn     |
|         |     |     |         | Asn     |
|         |     |     |         | Tyr     |
|         |     |     |         | Lys     |
|         |     |     |         | Thr     |
|         |     |     |         | Thr     |
|         |     |     |         | Pro     |
|         |     |     |         | Pro     |
|         |     |     |         | Val     |
|         |     |     |         | Leu     |
|         |     |     |         | Asp 300 |
| Ser     | Asp | Gly | Ser     | Phe     |
|         |     |     |         | Phe     |
|         |     |     |         | Leu     |
|         |     |     |         | Tyr     |
|         |     |     |         | Ser     |
|         |     |     |         | Lys     |
|         |     |     |         | Leu     |
|         |     |     |         | Thr     |
|         |     |     |         | Val     |
|         |     |     |         | Asp     |
|         |     |     |         | Lys     |
|         |     |     |         | Ser 320 |
| Arg     | Trp | Gln | Gln     | Gly     |
|         |     |     |         | Asn     |
|         |     |     |         | Val     |
|         |     |     |         | Phe     |
|         |     |     |         | Ser     |
|         |     |     |         | Cys     |
|         |     |     |         | Ser     |
|         |     |     |         | Val     |
|         |     |     |         | Met     |
|         |     |     |         | His     |
|         |     |     |         | Glu     |
|         |     |     |         | Ala 335 |

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
340 345 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Leu  
355 360 365

Pro Ala Gln Val Ala Phe Thr Pro Tyr Ala Pro Glu Pro Gly Ser Thr  
370 375 380

Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys Cys Ser  
385 390 395 400

Lys Cys Ser Pro Gly Gln His Ala Lys Val Phe Cys Thr Lys Thr Ser  
405 410 415

Asp Thr Val Cys Asp Ser Cys Glu Asp Ser Thr Tyr Thr Gln Leu Trp  
420 425 430

Asn Trp Val Pro Glu Cys Leu Ser Cys Gly Ser Arg Cys Ser Ser Asp  
435 440 445

Gln Val Glu Thr Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile Cys Thr  
450 455 460

Cys Arg Pro Gly Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly Cys Arg  
465 470 475 480

Leu Cys Ala Pro Leu Arg Lys Cys Arg Pro Gly Phe Gly Val Ala Arg  
485 490 495

Pro Gly Thr Glu Thr Ser Asp Val Val Cys Lys Pro Cys Ala Pro Gly  
500 505 510

Thr Phe Ser Asn Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro His Gln  
515 520 525

Ile Cys Asn Val Val Ala Ile Pro Gly Asn Ala Ser Met Asp Ala Val

530

535

540

Cys Thr Ser Thr Ser Pro Thr Arg Ser Met Ala Pro Gly Ala Val His  
 545 550 555 560

Leu Pro Gln Pro Val Ser Thr Arg Ser Gln His Thr Gln Pro Thr Pro  
 565 570 575

Glu Pro Ser Thr Ala Pro Ser Thr Ser Phe Leu Leu Pro Met Gly Pro  
 580 585 590

Ser Pro Pro Ala Glu Gly Ser Thr Gly Asp  
 595 600

<210> 53  
 <211> 578  
 <212> PRT  
 <213> Homo sapiens

<400> 53

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

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

Asn Met His Trp Val Lys Gln Thr Pro Gly Arg Gly Leu Glu Trp Ile  
 35 40 45

Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe  
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
 65 70 75 80

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

Ala Arg Ser Thr Tyr Tyr Gly Gly Asp Trp Tyr Phe Asn Val Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn  
465 470 475 480

Cys Cys Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp  
485 490 495

Lys Trp Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly  
500 505 510

Pro Cys Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu  
515 520 525

Ala Leu Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys  
530 535 540

Val Pro Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg  
545 550 555 560

Lys Pro Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys  
565 570 575

Cys Ser

<210> 54  
<211> 573  
<212> PRT  
<213> Homo sapiens

<400> 54

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 Thr Phe Thr Ser Tyr  
20 25 30

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

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

Lys Asp Lys Ala Thr Ile Thr Ala Asp Glu Ser Thr Asn 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 Arg Gly Gly Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val  
100 105 110

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

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

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

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

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

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

Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr  
210 215 220

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

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

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

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr

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

Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp Ile His Glu  
485 490 495

Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys Pro Tyr Ile  
500 505 510

Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu Tyr Asn Gln  
515 520 525

His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro Gln Ala Leu  
530 535 540

Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro Lys Val Glu  
545 550 555 560

Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
565 570

<210> 55  
<211> 572  
<212> PRT  
<213> Homo sapiens

<400> 55

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

Lys Met Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Arg Tyr Trp Met  
20 25 30

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

Ile Tyr Pro Gly Asn Ser Asp Thr Ser Tyr Asn Gln Lys Phe Glu Gly  
50 55 60

Lys Ala Lys Leu Thr Ala Val Thr Ser Ala Ser Thr Ala Tyr Met Glu  
65 70 75 80

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

Asp Tyr Gly Tyr Tyr Phe Asp Phe Trp Gly Gln Gly Thr Thr Leu Thr  
100 105 110

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

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val  
130 135 140

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Leu Asp Thr  
450 455 460

Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys Val Arg Gln Leu  
465 470 475 480

Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp Ile His Glu Pro  
485 490 495

Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys Pro Tyr Ile Trp  
500 505 510

Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu Tyr Asn Gln His  
515 520 525

Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro Gln Ala Leu Glu  
530 535 540

Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro Lys Val Glu Gln  
545 550 555 560

Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
565 570

<210> 56  
<211> 500  
<212> PRT  
<213> Homo sapiens

<400> 56

Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys  
1 5 10 15

Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp  
20 25 30

Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys  
35 40 45

Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu  
50 55 60

Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |     |     |     |     |     |     |     |     |     |
| Gln | Ala | Leu | Glu | Pro | Leu | Pro | Ile | Val | Tyr | Tyr | Val | Gly | Arg | Lys | Pro |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Lys | Val | Glu | Gln | Leu | Ser | Asn | Met | Ile | Val | Arg | Ser | Cys | Lys | Cys | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Thr |
|     |     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |
| His | Thr | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Glu | Leu | Leu | Gly | Gly | Pro | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu | Asp | Pro |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Val | Lys | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Lys | Thr | Lys | Pro | Arg | Glu | Glu | Gln | Tyr | Asn | Ser | Thr | Tyr | Arg | Val | Val |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Val | Leu | Thr | Val | Leu | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Cys | Lys | Val | Ser | Asn | Lys | Ala | Leu | Pro | Ala | Pro | Ile | Glu | Lys | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ser | Lys | Ala | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Pro | Pro | Ser | Arg | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser  
275 280 285

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp  
290 295 300

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser  
305 310 315 320

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala  
325 330 335

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
340 345 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala  
355 360 365

Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu  
370 375 380

Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn  
385 390 395 400

Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys  
405 410 415

Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro  
420 425 430

Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg  
435 440 445

Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys  
450 455 460

Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr

465 470 475 480

Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile  
485 490 495

Ser Thr Leu Thr  
500

<210> 57  
<211> 500  
<212> PRT  
<213> Homo sapiens

<400> 57

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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
130 135 140

Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu  
145 150 155 160

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr  
165 170 175

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val  
180 185 190

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val  
195 200 205

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser  
210 215 220

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu  
225 230 235 240

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala  
245 250 255

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro  
260 265 270

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln  
275 280 285

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala  
290 295 300

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr  
305 310 315 320

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu  
325 330 335

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
340 345 350

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
355 360 365

Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
370 375 380

Gly Gly Gly Ser Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu  
385 390 395 400

Lys Asn Cys Cys Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu  
405 410 415

Gly Trp Lys Trp Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys  
420 425 430

Leu Gly Pro Cys Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys  
435 440 445

Val Leu Ala Leu Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro  
450 455 460

Cys Cys Val Pro Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val  
465 470 475 480

Gly Arg Lys Pro Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser  
485 490 495

Cys Lys Cys Ser  
500

<210> 58  
<211> 578  
<212> PRT  
<213> Homo sapiens

<400> 58

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

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

Tyr Tyr Trp Phe Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Ile Gly Tyr Ile Tyr Gly Ser Gly Gly Gly Thr Asn Tyr Asn Pro Ser  
50 55 60

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

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

Cys Ala Ser Asn Ile Leu Lys Tyr Leu His Trp Leu Leu Tyr Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro

385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn  
465 470 475 480

Cys Cys Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp  
485 490 495

Lys Trp Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly  
500 505 510

Pro Cys Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu  
515 520 525

Ala Leu Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys  
530 535 540

Val Pro Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg  
545 550 555 560

Lys Pro Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys  
565 570 575

Cys Ser

<210> 59  
 <211> 510  
 <212> PRT  
 <213> Homo sapiens

<400> 59

Met Gly Val Leu Leu Thr Gln Arg Thr Leu Leu Ser Leu Val Leu Ala  
 1 5 10 15

Leu Leu Phe Pro Ser Met Ala Ser Met Ala Met His Val Ala Gln Pro  
 20 25 30

Ala Val Val Leu Ala Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu  
 35 40 45

Tyr Ala Ser Pro Gly Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg  
 50 55 60

Gln Ala Asp Ser Gln Val Thr Glu Val Cys Ala Ala Thr Tyr Met Met  
 65 70 75 80

Gly Asn Glu Leu Thr Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser  
 85 90 95

Ser Gly Asn Gln Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp  
 100 105 110

Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr  
 115 120 125

Tyr Leu Gly Ile Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu  
 130 135 140

Pro Cys Pro Asp Ser Asp Gln Glu Pro Lys Ser Cys Asp Lys Thr His  
 145 150 155 160

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val  
 165 170 175

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
180 185 190

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu  
195 200 205

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
210 215 220

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

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
245 250 255

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile  
260 265 270

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
275 280 285

Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
290 295 300

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
305 310 315 320

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
325 330 335

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg  
340 345 350

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
355 360 365

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly  
370 375 380

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Leu  
385 390 395 400

Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys Val Arg  
405 410 415

Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp Ile His  
420 425 430

Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys Pro Tyr  
435 440 445

Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu Tyr Asn  
450 455 460

Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro Gln Ala  
465 470 475 480

Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro Lys Val  
485 490 495

Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
500 505 510

<210> 60  
<211> 484  
<212> PRT  
<213> Homo sapiens

<400> 60

Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys  
1 5 10 15

Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp  
20 25 30

Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys  
35 40 45

Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu  
50 55 60

Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro  
65 70 75 80

Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro  
85 90 95

Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
100 105 110

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala  
115 120 125

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro  
130 135 140

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val  
145 150 155 160

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val  
165 170 175

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln  
180 185 190

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln  
195 200 205

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

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro

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

Asn Gln Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly  
435 440 445

Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Leu  
450 455 460

Gly Ile Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys  
465 470 475 480

Pro Asp Ser Asp

<210> 61  
<211> 651  
<212> PRT  
<213> Homo sapiens

<400> 61

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

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

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

Ser Ala Ile Thr Trp Asn Ser Gly His Ile Asp Tyr Ala Asp Ser Val  
50 55 60

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

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

Ala Leu Val Ser Tyr Leu Ser Thr Ala Ser Ser Leu Asp Tyr Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
450 455 460

Gly Ser Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His  
465 470 475 480

Leu Gly Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser  
485 490 495

Lys Cys Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp  
500 505 510

Glu Tyr Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys  
515 520 525

Val Cys Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser  
530 535 540

Thr Thr Pro Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln  
545 550 555 560

Asp Cys Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly  
565 570 575

Ala Gln His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys  
580 585 590

Leu Ala Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg  
595 600 605

Pro Trp Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly  
610 615 620

Thr Glu Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys  
625 630 635 640

Pro Pro Asn Glu Pro His Val Tyr Leu Pro Gly  
645 650

<210> 62  
<211> 667  
<212> PRT  
<213> Homo sapiens

<400> 62

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

Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys Cys

|                                                                 |     |     |
|-----------------------------------------------------------------|-----|-----|
| 20                                                              | 25  | 30  |
| Ser Lys Cys Ser Pro Gly Gln His Ala Lys Val Phe Cys Thr Lys Thr |     |     |
| 35                                                              | 40  | 45  |
| Ser Asp Thr Val Cys Asp Ser Cys Glu Asp Ser Thr Tyr Thr Gln Leu |     |     |
| 50                                                              | 55  | 60  |
| Trp Asn Trp Val Pro Glu Cys Leu Ser Cys Gly Ser Arg Cys Ser Ser |     |     |
| 65                                                              | 70  | 75  |
| Asp Gln Val Glu Thr Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile Cys |     |     |
| 85                                                              | 90  | 95  |
| Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly Cys |     |     |
| 100                                                             | 105 | 110 |
| Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg Pro Gly Phe Gly Val Ala |     |     |
| 115                                                             | 120 | 125 |
| Arg Pro Gly Thr Glu Thr Ser Asp Val Val Cys Lys Pro Cys Ala Pro |     |     |
| 130                                                             | 135 | 140 |
| Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro His |     |     |
| 145                                                             | 150 | 155 |
| Gln Ile Cys Asn Val Val Ala Ile Pro Gly Asn Ala Ser Met Asp Ala |     |     |
| 165                                                             | 170 | 175 |
| Val Cys Thr Ser Thr Ser Pro Thr Arg Ser Met Ala Pro Gly Ala Val |     |     |
| 180                                                             | 185 | 190 |
| His Leu Pro Gln Pro Val Ser Thr Arg Ser Gln His Thr Gln Pro Thr |     |     |
| 195                                                             | 200 | 205 |
| Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser Phe Leu Leu Pro Met Gly |     |     |
| 210                                                             | 215 | 220 |

Pro Ser Pro Pro Ala Glu Gly Ser Thr Gly Asp Glu Pro Lys Ser Cys  
225 230 235 240

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly  
245 250 255

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met  
260 265 270

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His  
275 280 285

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val

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

Pro Trp Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly  
625 630 635 640

Thr Glu Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys  
645 650 655

Pro Pro Asn Glu Pro His Val Tyr Leu Pro Gly  
660 665

<210> 63

<211> 675

<212> PRT

<213> Homo sapiens

<400> 63

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
65 70 75 80

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

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly Gly Gly Gly Gly Ser Gly Gly  
180 185 190

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
195 200 205

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
210 215 220

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
225 230 235 240

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
245 250 255

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
260 265 270

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
275 280 285

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
290 295 300

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
305 310 315 320

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met  
325 330 335

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
340 345 350

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn  
355 360 365

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
370 375 380

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
385 390 395 400

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
405 410 415

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
420 425 430

Gly Gly Ser Gly Gly Gly Gly Ser Leu Pro Ala Gln Val Ala Phe Thr  
435 440 445

Pro Tyr Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr  
450 455 460

Asp Gln Thr Ala Gln Met Cys Cys Ser Lys Cys Ser Pro Gly Gln His  
465 470 475 480

Ala Lys Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys Asp Ser Cys  
485 490 495

Glu Asp Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro Glu Cys Leu  
500 505 510

Ser Cys Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr Gln Ala Cys  
515 520 525

Thr Arg Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly Trp Tyr Cys  
530 535 540

Ala Leu Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro Leu Arg Lys  
545 550 555 560

Cys Arg Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu Thr Ser Asp  
565 570 575

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

Ser Thr Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val Val Ala Ile  
595 600 605

Pro Gly Asn Ala Ser Met Asp Ala Val Cys Thr Ser Thr Ser Pro Thr  
610 615 620

Arg Ser Met Ala Pro Gly Ala Val His Leu Pro Gln Pro Val Ser Thr  
625 630 635 640

Arg Ser Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr Ala Pro Ser  
645 650 655

Thr Ser Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala Glu Gly Ser  
660 665 670

Thr Gly Asp  
675

<210> 64  
<211> 583  
<212> PRT  
<213> Homo sapiens

<400> 64

Met Gly Val Leu Leu Thr Gln Arg Thr Leu Leu Ser Leu Val Leu Ala

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   | 5   | 10  | 15  |     |     |     |     |     |     |     |     |     |     |     |     |
| Leu | Leu | Phe | Pro | Ser | Met | Ala | Ser | Met | Ala | Met | His | Val | Ala | Gln | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Val | Val | Leu | Ala | Ser | Ser | Arg | Gly | Ile | Ala | Ser | Phe | Val | Cys | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | Ala | Ser | Pro | Gly | Lys | Ala | Thr | Glu | Val | Arg | Val | Thr | Val | Leu | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Ala | Asp | Ser | Gln | Val | Thr | Glu | Val | Cys | Ala | Ala | Thr | Tyr | Met | Met |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Asn | Glu | Leu | Thr | Phe | Leu | Asp | Asp | Ser | Ile | Cys | Thr | Gly | Thr | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Gly | Asn | Gln | Val | Asn | Leu | Thr | Ile | Gln | Gly | Leu | Arg | Ala | Met | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Gly | Leu | Tyr | Ile | Cys | Lys | Val | Glu | Leu | Met | Tyr | Pro | Pro | Pro | Tyr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Tyr | Leu | Gly | Ile | Gly | Asn | Gly | Thr | Gln | Ile | Tyr | Val | Ile | Asp | Pro | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Cys | Pro | Asp | Ser | Asp | Gln | Glu | Pro | Lys | Ser | Cys | Asp | Lys | Thr | His |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Glu | Leu | Leu | Gly | Gly | Pro | Ser | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu | Asp | Pro | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
210 215 220

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

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
245 250 255

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile  
260 265 270

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
275 280 285

Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
290 295 300

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
305 310 315 320

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
325 330 335

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg  
340 345 350

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
355 360 365

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly  
370 375 380

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ile  
385 390 395 400

Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly Arg Cys

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 405 |     | 410 |     | 415 |     |     |     |     |     |     |     |     |     |     |
| Cys | Asn | Lys | Cys | Glu | Pro | Gly | Lys | Tyr | Met | Ser | Ser | Lys | Cys | Thr | Thr |
|     | 420 |     |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Thr | Ser | Asp | Ser | Val | Cys | Leu | Pro | Cys | Gly | Pro | Asp | Glu | Tyr | Leu | Asp |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Ser | Trp | Asn | Glu | Glu | Asp | Lys | Cys | Leu | Leu | His | Lys | Val | Cys | Asp | Thr |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gly | Lys | Ala | Leu | Val | Ala | Val | Val | Ala | Gly | Asn | Ser | Thr | Thr | Pro | Arg |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Arg | Cys | Ala | Cys | Thr | Ala | Gly | Tyr | His | Trp | Ser | Gln | Asp | Cys | Glu | Cys |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Cys | Arg | Arg | Asn | Thr | Glu | Cys | Ala | Pro | Gly | Leu | Gly | Ala | Gln | His | Pro |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Leu | Gln | Leu | Asn | Lys | Asp | Thr | Val | Cys | Lys | Pro | Cys | Leu | Ala | Gly | Tyr |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Phe | Ser | Asp | Ala | Phe | Ser | Ser | Thr | Asp | Lys | Cys | Arg | Pro | Trp | Thr | Asn |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Cys | Thr | Phe | Leu | Gly | Lys | Arg | Val | Glu | His | His | Gly | Thr | Glu | Lys | Ser |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Asp | Ala | Val | Cys | Ser | Ser | Ser | Leu | Pro | Ala | Arg | Lys | Pro | Pro | Asn | Glu |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Pro | His | Val | Tyr | Leu | Pro | Gly |     |     |     |     |     |     |     |     |     |
|     |     |     | 580 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 65  
 <211> 557  
 <212> PRT

<213> Homo sapiens

<400> 65

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
65 70 75 80

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

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly Glu Pro Lys Ser Cys Asp Lys  
180 185 190

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro  
195 200 205

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser  
210 215 220

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp  
225 230 235 240

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn  
245 250 255

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val  
260 265 270

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu  
275 280 285

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys  
290 295 300

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr  
305 310 315 320

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

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu  
340 345 350

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys  
370 375 380

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu  
 385 390 395 400

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly  
 405 410 415

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 420 425 430

Ala Met His Val Ala Gln Pro Ala Val Val Leu Ala Ser Ser Arg Gly  
 435 440 445

Ile Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly Lys Ala Thr Glu  
 450 455 460

Val Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln Val Thr Glu Val  
 465 470 475 480

Cys Ala Ala Thr Tyr Met Met Gly Asn Glu Leu Thr Phe Leu Asp Asp  
 485 490 495

Ser Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val Asn Leu Thr Ile  
 500 505 510

Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu  
 515 520 525

Leu Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly Asn Gly Thr Gln  
 530 535 540

Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser Asp  
 545 550 555

<210> 66  
 <211> 552  
 <212> PRT  
 <213> Homo sapiens

<400> 66

Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys  
1 5 10 15

Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp  
20 25 30

Ile His Glu Pro Lys Gly Tyr His Ala Asn Phe Cys Leu Gly Pro Cys  
35 40 45

Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu  
50 55 60

Tyr Asn Gln His Asn Pro Gly Ala Ser Ala Ala Pro Cys Cys Val Pro  
65 70 75 80

Gln Ala Leu Glu Pro Leu Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro  
85 90 95

Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
100 105 110

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

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser  
130 135 140

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg  
145 150 155 160

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro  
165 170 175

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala  
180 185 190

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val

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

Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr Leu  
405 410 415

Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys Asp  
420 425 430

Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr Pro  
435 440 445

Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys Glu  
450 455 460

Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln His  
465 470 475 480

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

Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp Thr  
500 505 510

Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu Lys  
515 520 525

Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro Asn  
530 535 540

Glu Pro His Val Tyr Leu Pro Gly  
545 550

<210> 67  
<211> 552  
<212> PRT  
<213> Homo sapiens

<400> 67

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
65 70 75 80

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

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly Gly Gly Gly Gly Ser Gly Gly  
180 185 190

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
195 200 205

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
210 215 220

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
225 230 235 240

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
245 250 255

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
260 265 270

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
275 280 285

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
290 295 300

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
305 310 315 320

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met  
325 330 335

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
340 345 350

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn  
355 360 365

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
370 375 380

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
385 390 395 400

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
405 410 415

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
420 425 430

Gly Gly Ser Gly Gly Gly Gly Ser Ala Leu Asp Thr Asn Tyr Cys Phe  
435 440 445

Ser Ser Thr Glu Lys Asn Cys Cys Val Arg Gln Leu Tyr Ile Asp Phe  
450 455 460

Arg Lys Asp Leu Gly Trp Lys Trp Ile His Glu Pro Lys Gly Tyr His  
465 470 475 480

Ala Asn Phe Cys Leu Gly Pro Cys Pro Tyr Ile Trp Ser Leu Asp Thr  
485 490 495

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

Ser Ala Ala Pro Cys Cys Val Pro Gln Ala Leu Glu Pro Leu Pro Ile  
515 520 525

Val Tyr Tyr Val Gly Arg Lys Pro Lys Val Glu Gln Leu Ser Asn Met  
530 535 540

Ile Val Arg Ser Cys Lys Cys Ser  
545 550

<210> 68  
<211> 729  
<212> PRT  
<213> Homo sapiens

<400> 68

Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu Asn  
1 5 10 15

Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 20  | 25  | 30  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ser | Asn | Met | Thr | Ile | Glu | Cys | Lys | Phe | Pro | Val | Glu | Lys | Gln | Leu | Asp |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Ala | Ala | Leu | Ile | Val | Tyr | Trp | Glu | Met | Glu | Asp | Lys | Asn | Ile | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Phe | Val | His | Gly | Glu | Glu | Asp | Leu | Lys | Val | Gln | His | Ser | Ser | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Arg | Gln | Arg | Ala | Arg | Leu | Leu | Lys | Asp | Gln | Leu | Ser | Leu | Gly | Asn | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Leu | Gln | Ile | Thr | Asp | Val | Lys | Leu | Gln | Asp | Ala | Gly | Val | Tyr | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Met | Ile | Ser | Tyr | Gly | Gly | Ala | Asp | Tyr | Lys | Arg | Ile | Thr | Val | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Asn | Ala | Pro | Tyr | Asn | Lys | Ile | Asn | Gln | Arg | Ile | Leu | Val | Val | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Val | Thr | Ser | Glu | His | Glu | Leu | Thr | Cys | Gln | Ala | Glu | Gly | Tyr | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Lys | Ala | Glu | Val | Ile | Trp | Thr | Ser | Ser | Asp | His | Gln | Val | Leu | Ser | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Thr | Thr | Thr | Thr | Asn | Ser | Lys | Arg | Glu | Glu | Lys | Leu | Phe | Asn | Val |
|     |     |     |     | 180 |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Ser | Thr | Leu | Arg | Ile | Asn | Thr | Thr | Thr | Asn | Glu | Ile | Phe | Tyr | Cys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Thr | Phe | Arg | Arg | Leu | Asp | Pro | Glu | Glu | Asn | His | Thr | Ala | Glu | Leu | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |

Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His Leu  
225 230 235 240

Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr Phe  
245 250 255

Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly  
260 265 270

Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu  
275 280 285

Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
290 295 300

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro  
305 310 315 320

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser  
325 330 335

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp  
340 345 350

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

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val  
370 375 380

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu  
385 390 395 400

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys  
405 410 415

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

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

Pro Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys  
625 630 635 640

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
645 650 655

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
660 665 670

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
675 680 685

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
690 695 700

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
705 710 715 720

Asn Glu Pro His Val Tyr Leu Pro Gly  
725

<210> 69  
<211> 729  
<212> PRT  
<213> Homo sapiens

<400> 69

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
65 70 75 80

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

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly Gly Gly Gly Gly Ser Gly Gly  
180 185 190

Gly Gly Ser Gly Gly Gly Gly Ser Thr His Thr Cys Pro Pro Cys Pro  
195 200 205

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
210 215 220

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
225 230 235 240

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
245 250 255

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
260 265 270

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
275 280 285

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
290 295 300

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
305 310 315 320

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met  
325 330 335

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
340 345 350

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn  
355 360 365

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
370 375 380

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
385 390 395 400

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
405 410 415

Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly  
420 425 430

Gly Gly Ser Gly Gly Gly Gly Ser Arg Ile Phe Ala Val Phe Ile Phe  
435 440 445

Met Thr Tyr Trp His Leu Leu Asn Ala Phe Thr Val Thr Val Pro Lys  
450 455 460

Asp Leu Tyr Val Val Glu Tyr Gly Ser Asn Met Thr Ile Glu Cys Lys  
465 470 475 480

Phe Pro Val Glu Lys Gln Leu Asp Leu Ala Ala Leu Ile Val Tyr Trp  
485 490 495

Glu Met Glu Asp Lys Asn Ile Ile Gln Phe Val His Gly Glu Glu Asp  
500 505 510

Leu Lys Val Gln His Ser Ser Tyr Arg Gln Arg Ala Arg Leu Leu Lys  
515 520 525

Asp Gln Leu Ser Leu Gly Asn Ala Ala Leu Gln Ile Thr Asp Val Lys  
530 535 540

Leu Gln Asp Ala Gly Val Tyr Arg Cys Met Ile Ser Tyr Gly Gly Ala  
545 550 555 560

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

Asn Gln Arg Ile Leu Val Val Asp Pro Val Thr Ser Glu His Glu Leu  
580 585 590

Thr Cys Gln Ala Glu Gly Tyr Pro Lys Ala Glu Val Ile Trp Thr Ser  
595 600 605

Ser Asp His Gln Val Leu Ser Gly Lys Thr Thr Thr Thr Asn Ser Lys  
610 615 620

Arg Glu Glu Lys Leu Phe Asn Val Thr Ser Thr Leu Arg Ile Asn Thr  
625 630 635 640

Thr Thr Asn Glu Ile Phe Tyr Cys Thr Phe Arg Arg Leu Asp Pro Glu  
645 650 655

Glu Asn His Thr Ala Glu Leu Val Ile Pro Glu Leu Pro Leu Ala His  
660 665 670

Pro Pro Asn Glu Arg Thr His Leu Val Ile Leu Gly Ala Ile Leu Leu  
675 680 685

Cys Leu Gly Val Ala Leu Thr Phe Ile Phe Arg Leu Arg Lys Gly Arg  
690 695 700

Met Met Asp Val Lys Lys Cys Gly Ile Gln Asp Thr Asn Ser Lys Lys  
705 710 715 720

Gln Ser Asp Thr His Leu Glu Glu Thr  
725

<210> 70  
<211> 214  
<212> PRT  
<213> Homo sapiens

<400> 70

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

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

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

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

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

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

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

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

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

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

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

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

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

Phe Asn Arg Gly Glu Cys  
210

<210> 71  
<211> 214  
<212> PRT  
<213> Homo sapiens

<400> 71

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

Glu Arg Val Ser Phe Ser Cys Arg Ala Ser Gln Ser Ile Gly Thr Asn  
20 25 30

Ile His Trp Tyr Gln Gln Arg Thr Asn Gly Ser Pro Arg Leu Leu Ile  
35 40 45

Lys Tyr Ala Ser Glu Ser Ile Ser Gly Ile Pro Ser Arg Phe Ser Gly  
50 55 60

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

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

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu 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> 72  
<211> 213  
<212> PRT  
<213> Homo sapiens

<400> 72

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

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Ile  
20 25 30

His Trp Phe Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr  
35 40 45

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

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

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

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

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

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

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

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

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

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

Asn Arg Gly Glu Cys  
210

<210> 73  
<211> 214  
<212> PRT  
<213> Homo sapiens

<400> 73

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 Ala Ser Gln Asp Ile Ser Asn Tyr  
20 25 30

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

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

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

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

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

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

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

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

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

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

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

Phe Asn Arg Gly Glu Cys  
210

<210> 74  
<211> 215  
<212> PRT  
<213> Homo sapiens

<400> 74

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

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Ser Ser  
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu  
35 40 45

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

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

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro



His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr  
35 40 45

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

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

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

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

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

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

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

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

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

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

Asn Arg Gly Glu Cys  
210

<210> 76  
<211> 210

<212> PRT

<213> Homo sapiens

<400> 76

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

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Arg Ser Tyr Met  
20 25 30

Gln Trp Tyr Gln Gln Lys Pro Gly Thr Ser Pro Lys Arg Trp Ile Tyr  
35 40 45

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

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu  
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys His Gln Arg Ser Ser Tyr Thr Phe Gly  
85 90 95

Gly Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val  
100 105 110

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

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln  
130 135 140

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

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

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu

|                                                                 |     |       |
|-----------------------------------------------------------------|-----|-------|
| 180                                                             | 185 | 190   |
| Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg |     |       |
| 195                                                             | 200 | 205   |
| Gly Glu                                                         |     |       |
| 210                                                             |     |       |
| <210> 77                                                        |     |       |
| <211> 216                                                       |     |       |
| <212> PRT                                                       |     |       |
| <213> Homo sapiens                                              |     |       |
| <400> 77                                                        |     |       |
| Ser Tyr Glu Leu Ser Gln Pro Arg Ser Val Ser Val Ser Pro Gly Gln |     |       |
| 1                                                               | 5   | 10 15 |
| Thr Ala Gly Phe Thr Cys Gly Gly Asp Asn Val Gly Arg Lys Ser Val |     |       |
| 20                                                              | 25  | 30    |
| Gln Trp Tyr Gln Gln Lys Pro Pro Gln Ala Pro Val Leu Val Ile Tyr |     |       |
| 35                                                              | 40  | 45    |
| Ala Asp Ser Glu Arg Pro Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser |     |       |
| 50                                                              | 55  | 60    |
| Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Gly Val Glu Ala Gly |     |       |
| 65                                                              | 70  | 75 80 |
| Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Thr Ala Asp His |     |       |
| 85                                                              | 90  | 95    |
| Trp Val Phe Gly Gly Gly Thr Arg Leu Thr Val Leu Gly Arg Thr Val |     |       |
| 100                                                             | 105 | 110   |
| Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys |     |       |
| 115                                                             | 120 | 125   |

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

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

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

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

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

Lys Ser Phe Asn Arg Gly Glu Cys  
210 215

<210> 78  
<211> 214  
<212> PRT  
<213> Homo sapiens

<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 Gln Gly Ile Arg Asn Tyr  
20 25 30

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

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

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

Glu Asp Val Ala Thr Tyr Tyr Cys Gln Arg Tyr Asn Arg Ala Pro Tyr  
85 90 95

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

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

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

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

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

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

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

Phe Asn Arg Gly Glu Cys  
210

<210> 79  
<211> 567  
<212> PRT  
<213> Homo sapiens

<400> 79

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Val  
20 25 30

Asn Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro  
35 40 45

Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln  
50 55 60

Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro  
65 70 75 80

Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr  
85 90 95

Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile  
100 105 110

Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys  
115 120 125

Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn  
130 135 140

Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp Leu  
145 150 155 160

Leu Leu Val Ile Phe Gln Val Thr Gly Ile Ser Leu Leu Pro Pro Leu  
165 170 175

Gly Val Ala Ile Ser Val Ile Ile Ile Phe Tyr Cys Tyr Arg Val Asn  
180 185 190

Arg Gln Gln Lys Leu Ser Ser Thr Trp Glu Thr Gly Lys Thr Arg Lys  
195 200 205

Leu Met Glu Phe Ser Glu His Cys Ala Ile Ile Leu Glu Asp Asp Arg  
210 215 220

Ser Asp Ile Ser Ser Thr Cys Ala Asn Asn Ile Asn His Asn Thr Glu  
225 230 235 240

Leu Leu Pro Ile Glu Leu Asp Thr Leu Val Gly Lys Gly Arg Phe Ala  
245 250 255

Glu Val Tyr Lys Ala Lys Leu Lys Gln Asn Thr Ser Glu Gln Phe Glu  
260 265 270

Thr Val Ala Val Lys Ile Phe Pro Tyr Glu Glu Tyr Ala Ser Trp Lys  
275 280 285

Thr Glu Lys Asp Ile Phe Ser Asp Ile Asn Leu Lys His Glu Asn Ile  
290 295 300

Leu Gln Phe Leu Thr Ala Glu Glu Arg Lys Thr Glu Leu Gly Lys Gln  
305 310 315 320

Tyr Trp Leu Ile Thr Ala Phe His Ala Lys Gly Asn Leu Gln Glu Tyr  
325 330 335

Leu Thr Arg His Val Ile Ser Trp Glu Asp Leu Arg Lys Leu Gly Ser  
340 345 350

Ser Leu Ala Arg Gly Ile Ala His Leu His Ser Asp His Thr Pro Cys  
355 360 365

Gly Arg Pro Lys Met Pro Ile Val His Arg Asp Leu Lys Ser Ser Asn  
370 375 380

Ile Leu Val Lys Asn Asp Leu Thr Cys Cys Leu Cys Asp Phe Gly Leu  
385 390 395 400

Ser Leu Arg Leu Asp Pro Thr Leu Ser Val Asp Asp Leu Ala Asn Ser  
405 410 415

Gly Gln Val Gly Thr Ala Arg Tyr Met Ala Pro Glu Val Leu Glu Ser  
420 425 430

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

Ser Met Ala Leu Val Leu Trp Glu Met Thr Ser Arg Cys Asn Ala Val  
450 455 460

Gly Glu Val Lys Asp Tyr Glu Pro Pro Phe Gly Ser Lys Val Arg Glu  
465 470 475 480

His Pro Cys Val Glu Ser Met Lys Asp Asn Val Leu Arg Asp Arg Gly  
485 490 495

Arg Pro Glu Ile Pro Ser Phe Trp Leu Asn His Gln Gly Ile Gln Met  
500 505 510

Val Cys Glu Thr Leu Thr Glu Cys Trp Asp His Asp Pro Glu Ala Arg  
515 520 525

Leu Thr Ala Gln Cys Val Ala Glu Arg Phe Ser Glu Leu Glu His Leu  
530 535 540

Asp Arg Leu Ser Gly Arg Ser Cys Ser Glu Glu Lys Ile Pro Glu Asp  
545 550 555 560

Gly Ser Leu Asn Thr Thr Lys  
565

<210> 80  
<211> 592  
<212> PRT  
<213> Homo sapiens

<400> 80

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Asp

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |  |  |
| Val | Glu | Met | Glu | Ala | Gln | Lys | Asp | Glu | Ile | Ile | Cys | Pro | Ser | Cys | Asn |  |  |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Arg | Thr | Ala | His | Pro | Leu | Arg | His | Ile | Asn | Asn | Asp | Met | Ile | Val | Thr |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Asp | Asn | Asn | Gly | Ala | Val | Lys | Phe | Pro | Gln | Leu | Cys | Lys | Phe | Cys | Asp |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Val | Arg | Phe | Ser | Thr | Cys | Asp | Asn | Gln | Lys | Ser | Cys | Met | Ser | Asn | Cys |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ser | Ile | Thr | Ser | Ile | Cys | Glu | Lys | Pro | Gln | Glu | Val | Cys | Val | Ala | Val |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Trp | Arg | Lys | Asn | Asp | Glu | Asn | Ile | Thr | Leu | Glu | Thr | Val | Cys | His | Asp |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Pro | Lys | Leu | Pro | Tyr | His | Asp | Phe | Ile | Leu | Glu | Asp | Ala | Ala | Ser | Pro |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Lys | Cys | Ile | Met | Lys | Glu | Lys | Lys | Lys | Pro | Gly | Glu | Thr | Phe | Phe | Met |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Cys | Ser | Cys | Ser | Ser | Asp | Glu | Cys | Asn | Asp | Asn | Ile | Ile | Phe | Ser | Glu |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Glu | Tyr | Asn | Thr | Ser | Asn | Pro | Asp | Leu | Leu | Leu | Val | Ile | Phe | Gln | Val |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Thr | Gly | Ile | Ser | Leu | Leu | Pro | Pro | Leu | Gly | Val | Ala | Ile | Ser | Val | Ile |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ile | Ile | Phe | Tyr | Cys | Tyr | Arg | Val | Asn | Arg | Gln | Gln | Lys | Leu | Ser | Ser |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |

Thr Trp Glu Thr Gly Lys Thr Arg Lys Leu Met Glu Phe Ser Glu His  
225 230 235 240

Cys Ala Ile Ile Leu Glu Asp Asp Arg Ser Asp Ile Ser Ser Thr Cys  
245 250 255

Ala Asn Asn Ile Asn His Asn Thr Glu Leu Leu Pro Ile Glu Leu Asp  
260 265 270

Thr Leu Val Gly Lys Gly Arg Phe Ala Glu Val Tyr Lys Ala Lys Leu  
275 280 285

Lys Gln Asn Thr Ser Glu Gln Phe Glu Thr Val Ala Val Lys Ile Phe  
290 295 300

Pro Tyr Glu Glu Tyr Ala Ser Trp Lys Thr Glu Lys Asp Ile Phe Ser  
305 310 315 320

Asp Ile Asn Leu Lys His Glu Asn Ile Leu Gln Phe Leu Thr Ala Glu  
325 330 335

Glu Arg Lys Thr Glu Leu Gly Lys Gln Tyr Trp Leu Ile Thr Ala Phe  
340 345 350

His Ala Lys Gly Asn Leu Gln Glu Tyr Leu Thr Arg His Val Ile Ser  
355 360 365

Trp Glu Asp Leu Arg Lys Leu Gly Ser Ser Leu Ala Arg Gly Ile Ala  
370 375 380

His Leu His Ser Asp His Thr Pro Cys Gly Arg Pro Lys Met Pro Ile  
385 390 395 400

Val His Arg Asp Leu Lys Ser Ser Asn Ile Leu Val Lys Asn Asp Leu  
405 410 415

Thr Cys Cys Leu Cys Asp Phe Gly Leu Ser Leu Arg Leu Asp Pro Thr

420                                      425                                      430  
 Leu Ser Val Asp Asp Leu Ala Asn Ser Gly Gln Val Gly Thr Ala Arg  
                  435                                      440                                      445  
 Tyr Met Ala Pro Glu Val Leu Glu Ser Arg Met Asn Leu Glu Asn Val  
                  450                                      455                                      460  
 Glu Ser Phe Lys Gln Thr Asp Val Tyr Ser Met Ala Leu Val Leu Trp  
 465                                      470                                      475                                      480  
 Glu Met Thr Ser Arg Cys Asn Ala Val Gly Glu Val Lys Asp Tyr Glu  
                                  485                                      490                                      495  
 Pro Pro Phe Gly Ser Lys Val Arg Glu His Pro Cys Val Glu Ser Met  
                                  500                                      505                                      510  
 Lys Asp Asn Val Leu Arg Asp Arg Gly Arg Pro Glu Ile Pro Ser Phe  
                                  515                                      520                                      525  
 Trp Leu Asn His Gln Gly Ile Gln Met Val Cys Glu Thr Leu Thr Glu  
                                  530                                      535                                      540  
 Cys Trp Asp His Asp Pro Glu Ala Arg Leu Thr Ala Gln Cys Val Ala  
 545                                      550                                      555                                      560  
 Glu Arg Phe Ser Glu Leu Glu His Leu Asp Arg Leu Ser Gly Arg Ser  
                                  565                                      570                                      575  
 Cys Ser Glu Glu Lys Ile Pro Glu Asp Gly Ser Leu Asn Thr Thr Lys  
                                  580                                      585                                      590

<210> 81  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 81

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Val  
20 25 30

Asn Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro  
35 40 45

Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln  
50 55 60

Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro  
65 70 75 80

Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr  
85 90 95

Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile  
100 105 110

Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys  
115 120 125

Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn  
130 135 140

Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp Leu  
145 150 155 160

Leu Leu Val Ile Phe Gln Val Thr Gly Ile Ser Leu Leu Pro Pro Leu  
165 170 175

Gly Val Ala Ile Ser Val Ile Ile Ile Phe Tyr Cys Tyr Arg Val Asn  
180 185 190

Arg Gln Gln Lys Leu Ser Ser Thr Trp Glu Thr Gly Lys Thr Arg Lys  
195 200 205

Leu Met Glu Phe Ser Glu His Cys Ala Ile Ile Leu Glu Asp Asp Arg  
210 215 220

Ser Asp Ile Ser Ser Thr Cys Ala Asn Asn Ile Asn His Asn Thr Glu  
225 230 235 240

Leu Leu Pro Ile Glu Leu Asp Thr Leu Val Gly Lys Gly Arg Phe Ala  
245 250 255

Glu Val Tyr Lys Ala Lys Leu Lys Gln Asn Thr Ser Glu Gln Phe Glu  
260 265 270

Thr Val Ala Val Lys Ile Phe Pro Tyr Glu Glu Tyr Ala Ser Trp Lys  
275 280 285

Thr Glu Lys Asp Ile Phe Ser Asp Ile Asn Leu Lys His Glu Asn Ile  
290 295 300

Leu Gln Phe Leu Thr Ala Glu Glu Arg Lys Thr Glu Leu Gly Lys Gln  
305 310 315 320

Tyr Trp Leu Ile Thr Ala Phe His Ala Lys Gly Asn Leu Gln Glu Tyr  
325 330 335

Leu Thr Arg His Val Ile Ser Trp Glu Asp Leu Arg Lys Leu Gly Ser  
340 345 350

Ser Leu Ala Arg Gly Ile Ala His Leu His Ser Asp His Thr Pro Cys  
355 360 365

Gly Arg Pro Lys Met Pro Ile Val His Arg Asp Leu Lys Ser Ser Asn  
370 375 380

Ile Leu Val Lys Asn Asp Leu Thr Cys Cys Leu Cys Asp Phe Gly Leu  
385 390 395 400

Ser Leu Arg Leu Asp Pro Thr Leu Ser Val Asp Asp Leu Ala Asn Ser  
405 410 415

Gly Gln Val Gly Thr Ala Arg Tyr Met Ala Pro Glu Val Leu Glu Ser  
420 425 430

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

Ser Met Ala Leu Val Leu Trp Glu Met Thr Ser Arg Cys Asn Ala Val  
450 455 460

Gly Glu Val Lys Asp Tyr Glu Pro Pro Phe Gly Ser Lys Val Arg Glu  
465 470 475 480

His Pro Cys Val Glu Ser Met Lys Asp Asn Val Leu Arg Asp Arg Gly  
485 490 495

Arg Pro Glu Ile Pro Ser Phe Trp Leu Asn His Gln Gly Ile Gln Met  
500 505 510

Val Cys Glu Thr Leu Thr Glu Cys Trp Asp His Asp Pro Glu Ala Arg  
515 520 525

Leu

<210> 82  
<211> 554  
<212> PRT  
<213> Homo sapiens

<400> 82

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Asp  
20 25 30

Val Glu Met Glu Ala Gln Lys Asp Glu Ile Ile Cys Pro Ser Cys Asn  
35 40 45

Arg Thr Ala His Pro Leu Arg His Ile Asn Asn Asp Met Ile Val Thr  
50 55 60

Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys Asp  
65 70 75 80

Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn Cys  
85 90 95

Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala Val  
100 105 110

Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His Asp  
115 120 125

Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser Pro  
130 135 140

Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe Met  
145 150 155 160

Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser Glu  
165 170 175

Glu Tyr Asn Thr Ser Asn Pro Asp Leu Leu Leu Val Ile Phe Gln Val  
180 185 190

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

Ile Ile Phe Tyr Cys Tyr Arg Val Asn Arg Gln Gln Lys Leu Ser Ser  
210 215 220

Thr Trp Glu Thr Gly Lys Thr Arg Lys Leu Met Glu Phe Ser Glu His

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

Leu Ser Val Asp Asp Leu Ala Asn Ser Gly Gln Val Gly Thr Ala Arg  
435 440 445

Tyr Met Ala Pro Glu Val Leu Glu Ser Arg Met Asn Leu Glu Asn Val  
450 455 460

Glu Ser Phe Lys Gln Thr Asp Val Tyr Ser Met Ala Leu Val Leu Trp  
465 470 475 480

Glu Met Thr Ser Arg Cys Asn Ala Val Gly Glu Val Lys Asp Tyr Glu  
485 490 495

Pro Pro Phe Gly Ser Lys Val Arg Glu His Pro Cys Val Glu Ser Met  
500 505 510

Lys Asp Asn Val Leu Arg Asp Arg Gly Arg Pro Glu Ile Pro Ser Phe  
515 520 525

Trp Leu Asn His Gln Gly Ile Gln Met Val Cys Glu Thr Leu Thr Glu  
530 535 540

Cys Trp Asp His Asp Pro Glu Ala Arg Leu  
545 550

<210> 83  
<211> 199  
<212> PRT  
<213> Homo sapiens

<400> 83

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Val  
20 25 30

Asn Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro  
35 40 45

Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln  
50 55 60

Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro  
65 70 75 80

Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr  
85 90 95

Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile  
100 105 110

Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys  
115 120 125

Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn  
130 135 140

Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp Leu  
145 150 155 160

Leu Leu Val Ile Phe Gln Val Thr Gly Ile Ser Leu Leu Pro Pro Leu  
165 170 175

Gly Val Ala Ile Ser Val Ile Ile Ile Phe Tyr Cys Tyr Arg Val Asn  
180 185 190

Arg Gln Gln Lys Leu Ser Ser  
195

<210> 84  
<211> 224  
<212> PRT  
<213> Homo sapiens

<400> 84

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu

|             |                 |                     |                     |
|-------------|-----------------|---------------------|---------------------|
| 1           | 5               | 10                  | 15                  |
| Trp Thr Arg | Ile Ala Ser Thr | Ile Pro Pro His Val | Gln Lys Ser Asp     |
|             | 20              | 25                  | 30                  |
| Val Glu Met | Glu Ala Gln Lys | Asp Glu Ile Ile     | Cys Pro Ser Cys Asn |
|             | 35              | 40                  | 45                  |
| Arg Thr Ala | His Pro Leu Arg | His Ile Asn Asn     | Asp Met Ile Val Thr |
|             | 50              | 55                  | 60                  |
| Asp Asn Asn | Gly Ala Val Lys | Phe Pro Gln Leu     | Cys Lys Phe Cys Asp |
| 65          | 70              | 75                  | 80                  |
| Val Arg Phe | Ser Thr Cys Asp | Asn Gln Lys Ser     | Cys Met Ser Asn Cys |
|             | 85              | 90                  | 95                  |
| Ser Ile Thr | Ser Ile Cys Glu | Lys Pro Gln Glu     | Val Cys Val Ala Val |
|             | 100             | 105                 | 110                 |
| Trp Arg Lys | Asn Asp Glu Asn | Ile Thr Leu Glu     | Thr Val Cys His Asp |
|             | 115             | 120                 | 125                 |
| Pro Lys Leu | Pro Tyr His Asp | Phe Ile Leu Glu     | Asp Ala Ala Ser Pro |
|             | 130             | 135                 | 140                 |
| Lys Cys Ile | Met Lys Glu Lys | Lys Lys Pro Gly     | Glu Thr Phe Phe Met |
| 145         | 150             | 155                 | 160                 |
| Cys Ser Cys | Ser Ser Asp Glu | Cys Asn Asp Asn     | Ile Ile Phe Ser Glu |
|             | 165             | 170                 | 175                 |
| Glu Tyr Asn | Thr Ser Asn Pro | Asp Leu Leu Leu     | Val Ile Phe Gln Val |
|             | 180             | 185                 | 190                 |
| Thr Gly Ile | Ser Leu Leu Pro | Pro Leu Gly Val     | Ala Ile Ser Val Ile |
|             | 195             | 200                 | 205                 |

Ile Ile Phe Tyr Cys Tyr Arg Val Asn Arg Gln Gln Lys Leu Ser Ser  
210 215 220

<210> 85  
<211> 166  
<212> PRT  
<213> Homo sapiens

<400> 85

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Val  
20 25 30

Asn Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro  
35 40 45

Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln  
50 55 60

Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro  
65 70 75 80

Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr  
85 90 95

Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile  
100 105 110

Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys  
115 120 125

Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn  
130 135 140

Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp Leu  
145 150 155 160

Leu Leu Val Ile Phe Gln  
165

<210> 86  
<211> 191  
<212> PRT  
<213> Homo sapiens

<400> 86

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Asp  
20 25 30

Val Glu Met Glu Ala Gln Lys Asp Glu Ile Ile Cys Pro Ser Cys Asn  
35 40 45

Arg Thr Ala His Pro Leu Arg His Ile Asn Asn Asp Met Ile Val Thr  
50 55 60

Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys Asp  
65 70 75 80

Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn Cys  
85 90 95

Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala Val  
100 105 110

Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His Asp  
115 120 125

Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser Pro  
130 135 140

Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe Met

145                      150                      155                      160

Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser Glu  
165 170 175

Glu Tyr Asn Thr Ser Asn Pro Asp Leu Leu Leu Val Ile Phe Gln  
180 185 190

```
<210> 87
<211> 137
<212> PRT
<213> Homo sapiens
```

<400> 87

Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val  
1 5 10 15

Thr Asp Asn Asn Gly Ala Val Lys Phe Pro Gln Leu Cys Lys Phe Cys  
20 25 30

Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn  
35 40 45

Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala  
50 55 60

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Trp | Arg | Lys | Asn | Asp | Glu | Asn | Ile | Thr | Leu | Glu | Thr | Val | Cys | His |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser  
85 90 95

Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe  
100 105 110

Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser  
115 120 125

Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
130 135

<210> 88  
<211> 162  
<212> PRT  
<213> Homo sapiens

<400> 88

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

Lys Asp Glu Ile Ile Cys Pro Ser Cys Asn Arg Thr Ala His Pro Leu  
20 25 30

Arg His Ile Asn Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val  
35 40 45

Lys Phe Pro Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys  
50 55 60

Asp Asn Gln Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys  
65 70 75 80

Glu Lys Pro Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu  
85 90 95

Asn Ile Thr Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His  
100 105 110

Asp Phe Ile Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu  
115 120 125

Lys Lys Lys Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp  
130 135 140

Glu Cys Asn Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn  
145 150 155 160

Pro Asp

<210> 89  
<211> 112  
<212> PRT  
<213> Homo sapiens

<400> 89

Pro Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn  
1 5 10 15

Gln Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys  
20 25 30

Pro Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile  
35 40 45

Thr Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe  
50 55 60

Ile Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys  
65 70 75 80

Lys Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys  
85 90 95

Asn Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp  
100 105 110

<210> 90  
<211> 507  
<212> PRT  
<213> Homo sapiens

<400> 90

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Val  
20 25 30

Asn Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro  
35 40 45

Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln  
50 55 60

Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro  
65 70 75 80

Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr  
85 90 95

Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile  
100 105 110

Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys  
115 120 125

Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn  
130 135 140

Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp Leu  
145 150 155 160

Leu Leu Val Ile Phe Gln Val Thr Gly Ile Ser Leu Leu Pro Pro Leu  
165 170 175

Gly Val Ala Ile Ser Val Ile Ile Ile Phe Tyr Cys Tyr Arg Val Asn  
180 185 190

Arg Gln Gln Lys Leu Ser Ser Thr Trp Glu Thr Gly Lys Thr Arg Lys  
195 200 205

Leu Met Glu Phe Ser Glu His Cys Ala Ile Ile Leu Glu Asp Asp Arg

210

215

220

Ser Asp Ile Ser Ser Thr Cys Ala Asn Asn Ile Asn His Asn Thr Glu  
225 230 235 240

Leu Leu Pro Ile Glu Leu Asp Thr Leu Val Gly Lys Gly Arg Phe Ala  
245 250 255

Glu Val Tyr Lys Ala Lys Leu Lys Gln Asn Thr Ser Glu Gln Phe Glu  
260 265 270

Thr Val Ala Val Arg Ile Phe Pro Tyr Glu Glu Tyr Ala Ser Trp Lys  
275 280 285

Thr Glu Lys Asp Ile Phe Ser Asp Ile Asn Leu Lys His Glu Asn Ile  
290 295 300

Leu Gln Phe Leu Thr Ala Glu Glu Arg Lys Thr Glu Leu Gly Lys Gln  
305 310 315 320

Tyr Trp Leu Ile Thr Ala Phe His Ala Lys Gly Asn Leu Gln Glu Tyr  
325 330 335

Leu Thr Arg His Val Ile Ser Trp Glu Asp Leu Arg Lys Leu Gly Ser  
340 345 350

Ser Leu Ala Arg Gly Ile Ala His Leu His Ser Asp His Thr Pro Cys  
355 360 365

Gly Arg Pro Lys Met Pro Ile Val His Arg Asp Leu Lys Ser Ser Asn  
370 375 380

Ile Leu Val Lys Asn Asp Leu Thr Cys Cys Leu Cys Asp Phe Gly Leu  
385 390 395 400

Ser Leu Arg Leu Asp Pro Thr Leu Ser Val Asp Asp Leu Ala Asn Ser  
405 410 415

Gly Gln Val Gly Thr Ala Arg Tyr Met Ala Pro Glu Val Leu Glu Ser  
420 425 430

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

Ser Met Ala Leu Val Leu Trp Glu Met Thr Ser Arg Cys Asn Ala Val  
450 455 460

Gly Glu Val Lys Asp Tyr Glu Pro Pro Phe Gly Ser Lys Val Arg Glu  
465 470 475 480

Leu Glu His Leu Asp Arg Leu Ser Gly Arg Ser Cys Ser Glu Glu Lys  
485 490 495

Ile Pro Glu Asp Gly Ser Leu Asn Thr Thr Lys  
500 505

<210> 91  
<211> 550  
<212> PRT  
<213> Homo sapiens

<400> 91

Met Gly Arg Gly Leu Leu Arg Gly Leu Trp Pro Leu His Ile Val Leu  
1 5 10 15

Trp Thr Arg Ile Ala Ser Thr Ile Pro Pro His Val Gln Lys Ser Val  
20 25 30

Asn Asn Asp Met Ile Val Thr Asp Asn Asn Gly Ala Val Lys Phe Pro  
35 40 45

Gln Leu Cys Lys Phe Cys Asp Val Arg Phe Ser Thr Cys Asp Asn Gln  
50 55 60

Lys Ser Cys Met Ser Asn Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro  
65 70 75 80

Gln Glu Val Cys Val Ala Val Trp Arg Lys Asn Asp Glu Asn Ile Thr  
85 90 95

Leu Glu Thr Val Cys His Asp Pro Lys Leu Pro Tyr His Asp Phe Ile  
100 105 110

Leu Glu Asp Ala Ala Ser Pro Lys Cys Ile Met Lys Glu Lys Lys Lys  
115 120 125

Pro Gly Glu Thr Phe Phe Met Cys Ser Cys Ser Ser Asp Glu Cys Asn  
130 135 140

Asp Asn Ile Ile Phe Ser Glu Glu Tyr Asn Thr Ser Asn Pro Asp Leu  
145 150 155 160

Leu Leu Val Ile Phe Gln Val Thr Gly Ile Ser Leu Leu Pro Pro Leu  
165 170 175

Gly Val Ala Ile Ser Val Ile Ile Ile Phe Tyr Cys Tyr Arg Val Asn  
180 185 190

Arg Gln Gln Lys Leu Ser Ser Thr Trp Glu Thr Gly Lys Thr Arg Lys  
195 200 205

Leu Met Glu Phe Ser Glu His Cys Ala Ile Ile Leu Glu Asp Asp Arg  
210 215 220

Ser Asp Ile Ser Ser Thr Cys Ala Asn Asn Ile Asn His Asn Thr Glu  
225 230 235 240

Leu Leu Pro Ile Glu Leu Asp Thr Leu Val Gly Lys Gly Arg Phe Ala  
245 250 255

Glu Val Tyr Lys Ala Lys Leu Lys Gln Asn Thr Ser Glu Gln Phe Glu  
260 265 270

Thr Val Ala Val Lys Ile Phe Pro Tyr Glu Glu Tyr Ala Ser Trp Lys  
275 280 285

Thr Glu Lys Asp Ile Phe Ser Asp Ile Asn Leu Lys His Glu Asn Ile  
290 295 300

Leu Gln Phe Leu Thr Ala Glu Glu Arg Lys Thr Glu Leu Gly Lys Gln  
305 310 315 320

Tyr Trp Leu Ile Thr Ala Phe His Ala Lys Gly Asn Leu Gln Glu Tyr  
325 330 335

Leu Thr Arg His Val Ile Ser Trp Glu Asp Leu Arg Lys Leu Gly Ser  
340 345 350

Ser Leu Ala Arg Gly Ile Ala His Leu His Ser Asp His Thr Pro Cys  
355 360 365

Gly Arg Pro Lys Met Pro Ile Val His Arg Asp Leu Lys Ser Ser Asn  
370 375 380

Ile Leu Val Lys Asn Asp Leu Thr Cys Cys Leu Cys Asp Phe Gly Leu  
385 390 395 400

Ser Leu Arg Leu Asp Pro Thr Leu Ser Val Asp Asp Leu Ala Asn Ser  
405 410 415

Gly Gln Val Gly Thr Ala Arg Tyr Met Ala Pro Glu Val Leu Glu Ser  
420 425 430

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

Ser Met Ala Leu Val Leu Trp Glu Met Thr Ser Arg Cys Asn Ala Val  
450 455 460

Gly Glu Val Lys Asp Tyr Glu Pro Pro Phe Gly Ser Lys Val Arg Glu  
465 470 475 480

His Pro Cys Val Glu Ser Met Lys Asp Ala Ser Gly Ile Gln Met Val  
485 490 495

Cys Glu Thr Leu Thr Glu Cys Trp Asp His Asp Pro Glu Ala Arg Leu  
500 505 510

Thr Ala Gln Cys Val Ala Glu Arg Phe Ser Glu Leu Glu His Leu Asp  
515 520 525

Arg Leu Ser Gly Arg Ser Cys Ser Glu Glu Lys Ile Pro Glu Asp Gly  
530 535 540

Ser Leu Asn Thr Thr Lys  
545 550

<210> 92  
<211> 288  
<212> PRT  
<213> Homo sapiens

<400> 92

Met Gln Ile Pro Gln Ala Pro Trp Pro Val Val Trp Ala Val Leu Gln  
1 5 10 15

Leu Gly Trp Arg Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp  
20 25 30

Asn Pro Pro Thr Phe Ser Pro Ala Leu Leu Val Val Thr Glu Gly Asp  
35 40 45

Asn Ala Thr Phe Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val  
50 55 60

Leu Asn Trp Tyr Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala  
65 70 75 80

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

85

90

95

Val Thr Gln Leu Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg  
 100 105 110

Ala Arg Arg Asn Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu  
 115 120 125

Ala Pro Lys Ala Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val  
 130 135 140

Thr Glu Arg Arg Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro  
 145 150 155 160

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

Leu Leu Gly Ser Leu Val Leu Leu Val Trp Val Leu Ala Val Ile Cys  
 180 185 190

Ser Arg Ala Ala Arg Gly Thr Ile Gly Ala Arg Arg Thr Gly Gln Pro  
 195 200 205

Leu Lys Glu Asp Pro Ser Ala Val Pro Val Phe Ser Val Asp Tyr Gly  
 210 215 220

Glu Leu Asp Phe Gln Trp Arg Glu Lys Thr Pro Glu Pro Pro Val Pro  
 225 230 235 240

Cys Val Pro Glu Gln Thr Glu Tyr Ala Thr Ile Val Phe Pro Ser Gly  
 245 250 255

Met Gly Thr Ser Ser Pro Ala Arg Arg Gly Ser Ala Asp Gly Pro Arg  
 260 265 270

Ser Ala Gln Pro Leu Arg Pro Glu Asp Gly His Cys Ser Trp Pro Leu  
 275 280 285

<210> 93  
<211> 150  
<212> PRT  
<213> Homo sapiens

<400> 93

Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr  
1 5 10 15

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

Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr  
35 40 45

Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu  
50 55 60

Asp Arg Ser Gln Pro Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu  
65 70 75 80

Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn  
85 90 95

Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala  
100 105 110

Gln Ile Lys Glu Ser Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg  
115 120 125

Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly  
130 135 140

Gln Phe Gln Thr Leu Val  
145 150

<210> 94  
<211> 142

<212> PRT  
<213> Homo sapiens

<400> 94

Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr Phe Ser Pro Ala Leu  
1 5 10 15

Leu Val Val Thr Glu Gly Asp Asn Ala Thr Phe Thr Cys Ser Phe Ser  
20 25 30

Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr Arg Met Ser Pro Ser  
35 40 45

Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu Asp Arg Ser Gln Pro  
50 55 60

Gly Gln Asp Cys Arg Phe Arg Val Thr Gln Leu Pro Asn Gly Arg Asp  
65 70 75 80

Phe His Met Ser Val Val Arg Ala Arg Arg Asn Asp Ser Gly Thr Tyr  
85 90 95

Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala Gln Ile Lys Glu Ser  
100 105 110

Leu Arg Ala Glu Leu Arg Val Thr Glu Arg Arg Ala Glu Val Pro Thr  
115 120 125

Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly Gln Phe Gln  
130 135 140

<210> 95  
<211> 616  
<212> PRT  
<213> Homo sapiens

<400> 95

Met Ala Pro Arg Ala Arg Arg Arg Arg Pro Leu Phe Ala Leu Leu Leu  
1 5 10 15

Leu Cys Ala Leu Leu Ala Arg Leu Gln Val Ala Leu Gln Ile Ala Pro  
20 25 30

Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly Arg Cys Cys Asn  
35 40 45

Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys Thr Thr Thr Ser  
50 55 60

Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr Leu Asp Ser Trp  
65 70 75 80

Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys Asp Thr Gly Lys  
85 90 95

Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr Pro Arg Arg Cys  
100 105 110

Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys Glu Cys Cys Arg  
115 120 125

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

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

Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp Thr Asn Cys Thr  
165 170 175

Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu Lys Ser Asp Ala  
180 185 190

Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro Asn Glu Pro His  
195 200 205

Val Tyr Leu Pro Gly Leu Ile Ile Leu Leu Leu Phe Ala Ser Val Ala  
210 215 220

Leu Val Ala Ala Ile Ile Phe Gly Val Cys Tyr Arg Lys Lys Gly Lys  
225 230 235 240

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

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

Thr Ala Asn Phe Gly Gln Gln Gly Ala Cys Glu Gly Val Leu Leu Leu  
275 280 285

Thr Leu Glu Glu Lys Thr Phe Pro Glu Asp Met Cys Tyr Pro Asp Gln  
290 295 300

Gly Gly Val Cys Gln Gly Thr Cys Val Gly Gly Gly Pro Tyr Ala Gln  
305 310 315 320

Gly Glu Asp Ala Arg Met Leu Ser Leu Val Ser Lys Thr Glu Ile Glu  
325 330 335

Glu Asp Ser Phe Arg Gln Met Pro Thr Glu Asp Glu Tyr Met Asp Arg  
340 345 350

Pro Ser Gln Pro Thr Asp Gln Leu Leu Phe Leu Thr Glu Pro Gly Ser  
355 360 365

Lys Ser Thr Pro Pro Phe Ser Glu Pro Leu Glu Val Gly Glu Asn Asp  
370 375 380

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

Ser Cys Asn Cys Thr Glu Pro Leu Cys Arg Thr Asp Trp Thr Pro Met  
405 410 415

Ser Ser Glu Asn Tyr Leu Gln Lys Glu Val Asp Ser Gly His Cys Pro  
420 425 430

His Trp Ala Ala Ser Pro Ser Pro Asn Trp Ala Asp Val Cys Thr Gly  
435 440 445

Cys Arg Asn Pro Pro Gly Glu Asp Cys Glu Pro Leu Val Gly Ser Pro  
450 455 460

Lys Arg Gly Pro Leu Pro Gln Cys Ala Tyr Gly Met Gly Leu Pro Pro  
465 470 475 480

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

Ala Asp Gly Arg Leu Pro Ser Ser Ala Arg Ala Gly Ala Gly Ser Gly  
500 505 510

Ser Ser Pro Gly Gly Gln Ser Pro Ala Ser Gly Asn Val Thr Gly Asn  
515 520 525

Ser Asn Ser Thr Phe Ile Ser Ser Gly Gln Val Met Asn Phe Lys Gly  
530 535 540

Asp Ile Ile Val Val Tyr Val Ser Gln Thr Ser Gln Glu Gly Ala Ala  
545 550 555 560

Ala Ala Ala Glu Pro Met Gly Arg Pro Val Gln Glu Glu Thr Leu Ala  
565 570 575

Arg Arg Asp Ser Phe Ala Gly Asn Gly Pro Arg Phe Pro Asp Pro Cys  
580 585 590

Gly Gly Pro Glu Gly Leu Arg Glu Pro Glu Lys Ala Ser Arg Pro Val  
595 600 605

Gln Glu Gln Gly Gly Ala Lys Ala  
610 615

<210> 96  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 96

Gln Ile Ala Pro Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly  
1 5 10 15

Arg Cys Cys Asn Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys  
20 25 30

Thr Thr Thr Ser Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr  
35 40 45

Leu Asp Ser Trp Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys  
50 55 60

Asp Thr Gly Lys Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr  
65 70 75 80

Pro Arg Arg Cys Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys  
85 90 95

Glu Cys Cys Arg Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln  
100 105 110

His Pro Leu Gln Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala  
115 120 125

Gly Tyr Phe Ser Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp  
130 135 140

Thr Asn Cys Thr Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu  
145 150 155 160

Lys Ser Asp Ala Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro  
165 170 175

Asn Glu Pro His Val Tyr Leu Pro Gly  
180 185

<210> 97  
<211> 213  
<212> PRT  
<213> Homo sapiens

<400> 97

Met Ala Pro Arg Ala Arg Arg Arg Arg Pro Leu Phe Ala Leu Leu Leu  
1 5 10 15

Leu Cys Ala Leu Leu Ala Arg Leu Gln Val Ala Leu Gln Ile Ala Pro  
20 25 30

Pro Cys Thr Ser Glu Lys His Tyr Glu His Leu Gly Arg Cys Cys Asn  
35 40 45

Lys Cys Glu Pro Gly Lys Tyr Met Ser Ser Lys Cys Thr Thr Thr Ser  
50 55 60

Asp Ser Val Cys Leu Pro Cys Gly Pro Asp Glu Tyr Leu Asp Ser Trp  
65 70 75 80

Asn Glu Glu Asp Lys Cys Leu Leu His Lys Val Cys Asp Thr Gly Lys  
85 90 95

Ala Leu Val Ala Val Val Ala Gly Asn Ser Thr Thr Pro Arg Arg Cys  
100 105 110

Ala Cys Thr Ala Gly Tyr His Trp Ser Gln Asp Cys Glu Cys Cys Arg  
115 120 125

Arg Asn Thr Glu Cys Ala Pro Gly Leu Gly Ala Gln His Pro Leu Gln  
130 135 140

Leu Asn Lys Asp Thr Val Cys Lys Pro Cys Leu Ala Gly Tyr Phe Ser  
 145 150 155 160

Asp Ala Phe Ser Ser Thr Asp Lys Cys Arg Pro Trp Thr Asn Cys Thr  
 165 170 175

Phe Leu Gly Lys Arg Val Glu His His Gly Thr Glu Lys Ser Asp Ala  
 180 185 190

Val Cys Ser Ser Ser Leu Pro Ala Arg Lys Pro Pro Asn Glu Pro His  
 195 200 205

Val Tyr Leu Pro Gly  
 210

<210> 98  
 <211> 401  
 <212> PRT  
 <213> Homo sapiens

<400> 98

Met Asn Lys Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile  
 1 5 10 15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp  
 20 25 30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr  
 35 40 45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro  
 50 55 60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys  
 65 70 75 80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu

95

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala  
275 280 285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly  
290 295 300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys  
305 310 315 320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn  
325 330 335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser  
340 345 350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr  
355 360 365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu  
370 375 380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys  
385 390 395 400

Leu

<210> 99  
<211> 290  
<212> PRT  
<213> Homo sapiens

<400> 99

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu  
1 5 10 15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr  
20 25 30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu  
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile  
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser  
65 70 75 80

Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn  
85 90 95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr  
100 105 110

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val  
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val  
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr  
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser  
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn  
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr  
195 200 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu  
210 215 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr  
245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys  
260 265 270

Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu  
275 280 285

Glu Thr  
290

<210> 100  
<211> 209  
<212> PRT  
<213> Homo sapiens

<400> 100

Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr Gly  
1 5 10 15

Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu Asp  
20 25 30

Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile Ile  
35 40 45

Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser Tyr  
50 55 60

Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn Ala  
65 70 75 80

Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr Arg  
85 90 95

Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val Lys  
100 105 110

Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val Asp  
115 120 125

Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr Pro  
130 135 140

Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly  
145 150 155 160

Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val  
165 170 175

Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr Cys  
180 185 190

Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val  
195 200 205

Ile

<210> 101  
<211> 289  
<212> PRT  
<213> Homo sapiens

<400> 101

Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu Asn  
1 5 10 15

Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr Gly  
20 25 30

Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu Asp  
35 40 45

Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile Ile  
50 55 60

Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser Tyr  
65 70 75 80

Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn Ala  
85 90 95

Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr Arg  
100 105 110

Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val Lys  
115 120 125

Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val Asp  
130 135 140

Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr Pro  
145 150 155 160

Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser Gly  
165 170 175

Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn Val  
180 185 190

Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr Cys  
195 200 205

Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu Val  
210 215 220

Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His Leu  
225 230 235 240

Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr Phe  
245 250 255

Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly  
260 265 270

Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu  
275 280 285

Thr

<210> 102  
<211> 390  
<212> PRT  
<213> Homo sapiens

<400> 102

Met Pro Pro Ser Gly Leu Arg Leu Leu Pro Leu Leu Leu Pro Leu Leu  
1 5 10 15

Arg Leu Leu Val Leu Thr Pro Gly Arg Pro Ala Ala Gly Leu Ser Thr  
20 25 30

Cys Lys Thr Ile Asp Met Glu Leu Val Lys Arg Lys Arg Ile Glu Ala  
35 40 45

Ile Arg Gly Gln Ile Leu Ser Lys Leu Arg Leu Ser Ser Pro Pro Ser  
50 55 60

Gln Gly Glu Val Pro Pro Val Pro Leu Pro Glu Ala Val Leu Ala Leu  
65 70 75 80

Tyr Asn Ser Thr Arg Asp Arg Val Ala Gly Glu Ser Ala Glu Pro Glu  
85 90 95

Pro Glu Pro Glu Ala Asp Tyr Tyr Ala Lys Glu Val Thr Arg Val Leu  
100 105 110

Met Val Glu Asn Thr Asn Lys Ile Tyr Glu Lys Val Lys Lys Ser Pro  
115 120 125

His Ser Ile Tyr Met Leu Phe Asn Thr Ser Glu Leu Arg Glu Ala Val  
130 135 140

Pro Glu Pro Val Leu Leu Ser Arg Ala Glu Leu Arg Leu Leu Arg Leu  
145 150 155 160

Lys Leu Lys Ala Glu Gln His Val Glu Leu Tyr Gln Lys Tyr Ser Asn  
165 170 175

Asp Ser Trp Arg Tyr Leu Ser Asn Arg Leu Leu Ala Pro Ser Asp Thr  
180 185 190

Pro Glu Trp Leu Ser Phe Asp Val Thr Gly Val Val Arg Gln Trp Leu  
195 200 205

Ser His Gly Gly Glu Val Glu Gly Phe Arg Leu Ser Ala His Cys Ser  
210 215 220

Cys Asp Ser Lys Asp Asn Thr Leu Gln Val Asp Ile Asn Gly Phe Ser  
225 230 235 240

Ser Ser Arg Arg Gly Asp Leu Ala Thr Ile His Gly Met Asn Arg Pro  
245 250 255

Phe Leu Leu Leu Met Ala Thr Pro Leu Glu Arg Ala Gln His Leu His  
260 265 270

Ser Ser Arg Gln Arg Arg Ala Leu Asp Thr Asn Tyr Cys Phe Ser Ser  
275 280 285

Thr Glu Lys Asn Cys Cys Val Arg Gln Leu Tyr Ile Asp Phe Arg Lys  
290 295 300

Asp Leu Gly Trp Lys Trp Ile His Glu Pro Lys Gly Tyr His Ala Asn  
305 310 315 320

Phe Cys Leu Gly Pro Cys Pro Tyr Ile Trp Ser Leu Asp Thr Gln Tyr



Lys Val Glu Gln Leu Ser Asn Met Ile Val Arg Ser Cys Lys Cys Ser  
100 105 110

<210> 104  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic construct

<400> 104

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
1 5 10 15

<210> 105  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic construct

<400> 105

Glu Pro Lys Ser Cys Asp Lys  
1 5

<210> 106  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic construct

<400> 106

Ile Glu Gly Arg Asp Met Asp  
1 5

<210> 107  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic construct

<400> 107

Lys Lys Ala Glu  
1

<210> 108  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic construct

<400> 108

Lys Arg Val Glu  
1

<210> 109  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic construct

<400> 109

Lys Lys Val Glu  
1

<210> 110  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthetic construct

<400> 110

Gln Glu Pro Lys Ser Cys Asp Lys  
1 5

|       |                                                                   |     |
|-------|-------------------------------------------------------------------|-----|
| <210> | 111                                                               |     |
| <211> | 21                                                                |     |
| <212> | DNA                                                               |     |
| <213> | Artificial Sequence                                               |     |
| <220> |                                                                   |     |
| <223> | Primer                                                            |     |
| <400> | 111                                                               |     |
|       | ctagtgccac ctgggaattc a                                           | 21  |
| <210> | 112                                                               |     |
| <211> | 24                                                                |     |
| <212> | DNA                                                               |     |
| <213> | Artificial Sequence                                               |     |
| <220> |                                                                   |     |
| <223> | Primer                                                            |     |
| <400> | 112                                                               |     |
|       | catcattagc tgatctccag ctca                                        | 24  |
| <210> | 113                                                               |     |
| <211> | 38                                                                |     |
| <212> | DNA                                                               |     |
| <213> | Artificial Sequence                                               |     |
| <220> |                                                                   |     |
| <223> | Synthetic construct                                               |     |
| <400> | 113                                                               |     |
|       | catcagtgac agttacttct tcaccttcta cacagaga                         | 38  |
| <210> | 114                                                               |     |
| <211> | 1821                                                              |     |
| <212> | DNA                                                               |     |
| <213> | Homo sapiens                                                      |     |
| <400> | 114                                                               |     |
|       | gagctcgagg tgcagctggg ggaatccggc ggaggactgg tgcagcctgg cggatccctg | 60  |
|       | agactgtctt gcgccgcctc cggcttcaac atcaaggaca cctacatcca ctgggtgcga | 120 |
|       | caggcccctg gcaagggact ggaatgggtg gcccggatct accccaccaa cggctacacc | 180 |

|                                                                   |      |
|-------------------------------------------------------------------|------|
| agatacgccg actccgtgaa gggccggttc accatctccg ccgacacctc caagaacacc | 240  |
| gcctacctgc agatgaactc cctgcgggcc gaggacaccg ccgtgtacta ctgctccaga | 300  |
| tggggaggcg acggcttcta cgccatggac tactggggcc agggcacctt ggtgacagtg | 360  |
| tcctctgcct ccaccaaggg cccctctgtg ttccctctgg ccccttccag caagtccaca | 420  |
| tctggcggca ccgccgtctt gggctgcctg gtgaaagact acttccccga gcccgtgacc | 480  |
| gtgtcctgga actctggcgc cctgacctcc ggcgtgcaca cttttccagc cgtgctgcag | 540  |
| tcctccggcc tgtactccct gtcctccgtg gtgaccgtgc cctccagctc tctgggcacc | 600  |
| cagacctaca tctgcaacgt gaaccacaag ccctccaaca ccaaggtgga caagaaggtg | 660  |
| gaaccaagt cctgcgacaa gaccacacc tgtccccctt gccctgctcc tgaactgctg   | 720  |
| ggcggaccct ccgtgttctt gttccccca aagcccaagg acaccctgat gatctccgg   | 780  |
| acccccgaag tgacctgcgt ggtggtggac gtgtcccacg aggacctga agtgaagttc  | 840  |
| aattggtatg tggacggcgt ggaagtgcac aacgccaaga ccaagcccag agaggaacag | 900  |
| tacaactcca cctaccgggt ggtgtctgtg ctgaccgtgc tgcaccagga ctggctgaac | 960  |
| ggcaaagagt acaagtgcaa ggtgtccaac aaggccctgc ctgcccccat cgaaaagacc | 1020 |
| atctccaagg ccaagggcca gcctcgcgag cctcaggtgt acacactgcc ccctagccgg | 1080 |
| gaagagatga ccaagaacca ggtgtccctg acctgtctgg tgaaaggctt ctaccctcc  | 1140 |
| gatatcgccg tggaatggga gtccaacggc cagcccgaga acaactacaa gaccaccccc | 1200 |
| cctgtgctgg actccgacgg ctcatcttct ctgtactcca agctgaccgt ggacaagtcc | 1260 |
| cggtggcagc agggcaacgt gttctcctgc tccgtgatgc acgaggccct gcacaaccac | 1320 |
| tacaccaga agtccctgtc cctgagccct ggaaagggcg gaggcggctc tgggtggtgga | 1380 |
| ggctctggag gcggaggctc taccatccct ccacacgtgc agaaatccgt gaacaacgac | 1440 |
| atgatcgtga ccgacaacaa cggcgccgtg aagttcccc agctgtgcaa gttctgcgac  | 1500 |
| gtgcggttct ctacctgcga caaccagaaa tcctgcatgt ccaactgctc catcacctcc | 1560 |
| atctgcgaga agccccagga agtgtgcgtg gccgtgtggc ggaagaacga cgagaacatc | 1620 |
| accctggaaa ccgtgtgccg cgacccaag ctgccctacc acgacttcat cctggaagat  | 1680 |

|                                                                   |      |
|-------------------------------------------------------------------|------|
| gccgcctccc ccaagtgcac catgaaggaa aagaagaagc ccggcgagac attcttcatg | 1740 |
| tgcagctgct cctccgacga gtgcaacgac aacatcatct tctccgaaga gtacaacacc | 1800 |
| tccaaccccg actgaggtac c                                           | 1821 |

<210> 115  
 <211> 657  
 <212> DNA  
 <213> Homo sapiens

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 115                                                         |     |
| gagctcgaca tccagatgac ccagtcccc tccagcctgt ccgcctctgt gggcgacaga  | 60  |
| gtgaccatca cctgtcgggc ctctcaggac gtgaacaccg ccgtggcctg gtatcagcag | 120 |
| aagcctggca aggccccaa gctgctgac tactccgcct ctttcctgta ctccgggggtg  | 180 |
| ccatcccgtt tctccggctc tagatccggc accgacttca ccctgaccat ctccagcctg | 240 |
| cagcccgagg acttcgccac ctactactgc cagcagcact acaccacccc ccctaccttc | 300 |
| ggccagggca ccaaggtgga aatcaagcgg accgtggccg ctccctccgt gttcatcttc | 360 |
| ccaccctccg acgagcagct gaagtctggc accgcctccg tcgtgtgcct gctgaacaac | 420 |
| ttctaccccc gcgaggccaa ggtgcagtgg aaggtggaca acgccctgca gtccggcaac | 480 |
| tcccaggaat ccgtgaccga gcaggactcc aaggacagca cctactccct gtcctccacc | 540 |
| ctgaccctgt ccaaggccga ctacgagaag cacaaggtgt acgcctgcga agtgaccac  | 600 |
| cagggcctgt ccagccccgt gaccaagtcc ttcaaccggg gcgagtgtg aggtacc     | 657 |

<210> 116  
 <211> 1818  
 <212> DNA  
 <213> Homo sapiens

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 116                                                         |     |
| gagctccagg tgcagctgaa gcagtccggc ccaggactgg tgcagccttc ccagtccctg | 60  |
| tccatcacct gtaccgtgtc cggcttctcc ctgaccaact acggcgtgca ctgggtccga | 120 |
| cagtccccag gcaagggcct ggaatggctg ggagtgattt ggagcggcgg caacaccgac | 180 |
| tacaacaccc ccttcacctc ccggctgtcc atcaacaagg acaactccaa gtcccaggtg | 240 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| ttctttcaaga tgaactccct gcagtccaac gacaccgcca tctactactg cgccagagcc | 300  |
| ctgacctact atgactacga gttcgcctac tggggacagg gcaccctgggt caccgtgtct | 360  |
| gccgcctcta ccaagggccc ctccgtgttt cccctggccc cctccagcaa gtccacatct  | 420  |
| ggcggcaccg ccgctctggg ctgcctgggtc aaggactact tccccgagcc cgtgaccgtg | 480  |
| tcctggaact ctggcgccct gacctccggc gtgcacacct ttccagccgt gctgcagtcc  | 540  |
| tccggcctgt actccctgtc ctccgtcgtg accgtgccct ccagctctct gggcacccag  | 600  |
| acctacatct gcaacgtgaa ccacaagccc tccaacacca aggtggacaa gcgggtggaa  | 660  |
| cccaagtcct gcgacaagac ccacacctgt cccccctgcc ctgccccctga actgctggga | 720  |
| ggcccttccg tgttctgtt cccccaaag cccaaggaca ccctgatgat ctccgggacc    | 780  |
| cccgaagtga cctgcgtgggt ggtggacgtg tcccacgagg accctgaagt gaagttcaat | 840  |
| tggtacgtgg acggcgtgga agtgcacaac gccaaagacca agcccagaga ggaacagtac | 900  |
| aactccacct accgggtgggt gtccgtgctg accgtgctgc accaggactg gctgaacggc | 960  |
| aaagagtaca agtgcaaggt ctccaacaag gccctgcctg ccccatcga aaagaccatc   | 1020 |
| tccaaggcca agggccagcc ccgcgagcct cagggtgtaca ctctgcctcc cagccgggac | 1080 |
| gagctgacca agaaccaggt gtccctgacc tgtctgggtca agggcttcta cccctccgat | 1140 |
| atcgccgtgg aatgggagtc caacggccag cccgagaaca actacaagac cccccccct   | 1200 |
| gtgctggact ccgacggctc attcttctctg tactccaagc tgaccgtgga caagtcccgg | 1260 |
| tggcagcagg gcaacgtgtt ctctgtctcc gtgatgcacg aggccctgca caaccactac  | 1320 |
| accagaagt ccctgtctct gagccccggc aaggggcggag gcggatctgg tgggtggggc  | 1380 |
| tctggtggcg gaggctctac catccctcca cacgtgcaga aatccgtgaa caacgacatg  | 1440 |
| atcgtgaccg acaacaacgg cgccgtgaag ttcccccagc tgtgcaagtt ctgcgacgtg  | 1500 |
| cggttctcta cctgcgacaa ccagaaatcc tgcatgtcca actgctccat cacctccatc  | 1560 |
| tgcgagaagc cccaggaagt gtgcgtcgcc gtctggcgga agaacgacga gaacatcacc  | 1620 |
| ctggaaaccg tgtgccacga cccaagctg ccctaccacg acttcatcct ggaagatgcc   | 1680 |
| gcctcccca agtgcacat gaaggaaaag aagaagcccg gcgagacttt cttcatgtgc    | 1740 |

|                                                                   |      |
|-------------------------------------------------------------------|------|
| agctgctcct ccgacgagtg caacgacaac atcatcttct ccgaagagta caacacctcc | 1800 |
| aaccccgact gaggtacc                                               | 1818 |

<210> 117  
 <211> 657  
 <212> DNA  
 <213> Homo sapiens

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| <400> 117                                                          |     |
| gagctcgata tcctgctgac ccagtcccc gtgacccctgt ccgtgtctcc tggcgagcgg  | 60  |
| gtgtccttct cctgccgggc ctcccagtc atcggcacca acatccactg gtatcagcag   | 120 |
| cggaccaacg gctcccctcg gctgctgatt aagtacgcct ccgagtctat ctccggcatc  | 180 |
| ccctcccggg tctccggctc tggctccggc accgacttca ccctgtccat caactccgtg  | 240 |
| gaatccgagg atatcgccga ctactactgc cagcagaaca acaactggcc caccaccttc  | 300 |
| ggcgctggca ccaagctgga actgaagcgg accgtggccg ctccctccgt gttcatcttc  | 360 |
| ccaccctccg acgagcagct gaagtccggc accgcctccg tcgtgtgcct gctgaacaac  | 420 |
| ttctaccccc gcgaggccaa ggtgcagtgg aagggtggaca acgccctgca gtccggcaac | 480 |
| tcccaggaat ccgtcaccga gcaggactcc aaggacagca cctactccct gtcctccacc  | 540 |
| ctgaccctgt ccaaggccga ctacgagaag cacaaggtgt acgcctgcga agtgaccac   | 600 |
| cagggcctgt ccagccccgt gaccaagtcc ttcaaccggg gcgagtgctg aggtacc     | 657 |

<210> 118  
 <211> 1824  
 <212> DNA  
 <213> Homo sapiens

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 118                                                         |     |
| gagctccagg tgcagctgca gcagcctggc gccgagctgg tcaagcctgg cgcttccgtg | 60  |
| aagatgtcct gcaaggcctc cggctacacc ttcaccagct acaacatgca ctgggtcaag | 120 |
| cagacccccg gcagaggcct ggaatggatc ggcgccatct accccggcaa cggcgacacc | 180 |
| tcctacaacc agaagttcaa gggaaaggcc accctgaccg ccgacaagtc ctctccacc  | 240 |
| gcctacatgc agctgtcctc cctgacctcc gaggactccg ccgtgtacta ctgcgcccgg | 300 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tccacctact acggcggcga ctggtacttc aacgtgtggg gcgctggcac caccgtgacc  | 360  |
| gtgtctgccg cctctaccaa gggccccctc gtgtttcccc tggccccctc cagcaagtcc  | 420  |
| acatctggcg gcaccgccgc tctgggctgc ctggtcaagg actacttccc cgagcccgtg  | 480  |
| acagtgtcct ggaactctgg cgccctgacc agcggcgtgc acacctttcc agccgtgctg  | 540  |
| cagtcctctg gcctgtactc cctgtccagc gtcgtgaccg tgccctccag ctctctgggc  | 600  |
| accagacct acatctgcaa cgtgaaccac aagccctcca acaccaaggt ggacaagaag   | 660  |
| gccgagccca agtcctgcga caagaccac acctgtcccc cctgccctgc ccctgaactg   | 720  |
| ctgggaggcc cttctgtgtt cctgttcccc ccaaagccca aggacaccct gatgatctcc  | 780  |
| cggacccccg aagtgacctg cgtggtggtg gacgtgtccc acgaggacc tgaagtgaag   | 840  |
| ttcaattggt acgtggacgg cgtggaagtg cacaacgcca agaccaagcc cagagaggaa  | 900  |
| cagtacaact ccacctaccg ggtggtgtcc gtgctgaccg tgctgcacca ggactggctg  | 960  |
| aacggcaaag agtacaagtg caaggtgtcc aacaaggccc tgcctgcccc catcgaaaag  | 1020 |
| accatctcca aggccaaggg ccagccccgc gagcctcagg tgtacactct gcctcccagc  | 1080 |
| cgggacgagc tgaccaagaa ccagggtgtcc ctgacctgtc tggtaagggt cttctacccc | 1140 |
| tccgatatcg ccgtggaatg ggagtccaac ggccagcccc agaacaacta caagaccacc  | 1200 |
| ccccctgtgc tggactccga cggctcattc ttcctgtact ccaagctgac cgtggacaag  | 1260 |
| tcccgggtggc agcagggcaa cgtgttctcc tgctccgtga tgcacgaggc cctgcacaac | 1320 |
| cactacacc agaagtccct gtccctgagc cccggaaagg gcggaggcgg atctggtggt   | 1380 |
| ggaggatcag gcggcggagg ctctaccatc cccccacacg tgcagaaatc cgtgaacaac  | 1440 |
| gacatgatcg tgaccgacaa caacggcgcc gtgaagttcc cccagctgtg caagttctgc  | 1500 |
| gacgtgcggt tctctacctg cgacaaccag aaatcctgca tgtccaactg ctccatcacc  | 1560 |
| tccatctgcg agaagcccca ggaagtgtgc gtcgccgtct ggcggaagaa cgacgagaac  | 1620 |
| atcacctgg aaaccgtgtg ccacgacccc aagctgccct accacgactt catcctggaa   | 1680 |
| gatgccgcct cccccaagtg catcatgaag gaaaagaaga agcccggcga gactttcttc  | 1740 |
| atgtgctctt gctcctccga cgagtgaac gacaacatca tcttctccga agagtacaac   | 1800 |

acctccaacc ccgactgagg tacc 1824

<210> 119  
<211> 654  
<212> DNA  
<213> Homo sapiens

<400> 119  
gagctccaga tcgtgctgtc ccagtcccc gccatcctgt ctgctagccc tggcgagaaa 60  
gtgacaatga cctgccgggc ctctcctcc gtgtcctaca tccactgggt ccagcagaag 120  
cccggctcca gcccgaagcc ctggatctac gccacctcca acctggcctc cggcgtgcca 180  
gtgcggttct ctggctccgg ctccggcacc tcctactccc tgaccatctc ccgggtggaa 240  
gccgaggacg ccgccaccta ctactgccag cagtggacct ccaaccccc cacttttggc 300  
ggaggcacca agctggaaat caagcggacc gtggccgctc cctccgtgtt catcttcca 360  
ccctccgacg agcagctgaa gtccggcacc gcctccgtcg tgtgcctgct gaacaacttc 420  
tacccccgcg aggccaaggt gcagtggaa gtggacaacg ccctgcagtc cggcaactcc 480  
caggaatccg tcaccgagca ggactccaag gacagcacct acagcctgtc ctccacctg 540  
acctgtcca aggccgacta cgagaagcac aagggtgtacg cctgcgaagt gaccaccag 600  
ggcctgtcca gcccgtgac caagtccttc aaccggggcg agtgctgagg tacc 654

<210> 120  
<211> 1830  
<212> DNA  
<213> Homo sapiens

<400> 120  
gagctcgagg tgcagctggt ggaatccggc ggaggcctgg tccagcctgg cggatccctg 60  
agactgtcct gtgccgcctc cggctacacc ttcaccaact acggcatgaa ctgggtccga 120  
caggccccctg gcaagggcct ggaatgggtc ggatggatca acacctacac cggcgagccc 180  
acctacgccg ccgacttcaa gcggcggttc accttctccc tggacacctc caagtccacc 240  
gcctacctgc agatgaactc cctgcgggcc gaggacaccg ccgtgtacta ctgcgccaag 300  
tccccccact actacggctc ctcccactgg tacttcgacg tgtggggcca gggcacctg 360

|                                                                   |      |
|-------------------------------------------------------------------|------|
| gtcaccgtgt cctccgcctc taccaagggc ccctccgtgt tccctctggc cccctccagc | 420  |
| aagtccacat ctggcggcac cgccgctctg ggctgcctgg tcaaggacta cttccccgag | 480  |
| cccgtgaccg tgtcctggaa ctctggcgcc ctgacctccg gcgtgcacac ctttccagcc | 540  |
| gtgctgcagt cctccggcct gtactccctg tcctccgtcg tgaccgtgcc ctccagctct | 600  |
| ctgggcaccc agacctacat ctgcaacgtg aaccacaagc cctccaacac caaggtggac | 660  |
| aagaaggtgg aaccaagtc ctgcgacaag acccacacct gtccccctg ccctgcccct   | 720  |
| gaactgctgg gaggccctag cgtgttcctg ttcccccaa agcccaagga caccctgatg  | 780  |
| atctcccga ccccggaagt gacctgcgtg gtggtggacg tgtcccacga ggacctgaa   | 840  |
| gtgaagttca attggtacgt ggacggcgtg gaagtgcaca acgccaagac caagcccaga | 900  |
| gaggaacagt acaactccac ctaccgggtg gtgtccgtgc tgaccgtgct gcaccaggac | 960  |
| tggctgaacg gcaaagagta caagtgaag gtgtccaaca aggccctgcc tgccccatc   | 1020 |
| gaaaagacca tctccaaggc caagggccag ccccgcgagc ctcaggtgta cactctgccc | 1080 |
| cctagccggg aagagatgac caagaaccag gtgtccctga cctgtctggt caagggcttc | 1140 |
| taccctccg atatcgccgt ggaatgggag tccaacggcc agcccgagaa caactacaag  | 1200 |
| accaccccc ctgtgctgga ctccgacggc tcattcttcc tgtactccaa gctgaccgtg  | 1260 |
| gacaagtccc ggtggcagca gggcaacgtg ttctcctgct ccgtgatgca cgaggccctg | 1320 |
| cacaaccact acaccagaa gtccctgtcc ctgagcccag gcaagggcgg aggcggtatc  | 1380 |
| ggtggtggag gatcaggcgg cggaggctct accatcccc cacacgtgca gaaatccgtg  | 1440 |
| aacaacgaca tgatcgtgac cgacaacaac ggcgccgtga agttccccca gctgtgcaag | 1500 |
| ttctgcgacg tgcggttctc tacctgcgac aaccagaaat cctgcatgtc caactgctcc | 1560 |
| atcacctcca tctgcgagaa gccccaggaa gtgtgcgtcg ccgtctggcg gaagaacgac | 1620 |
| gagaacatca ccctggaaac cgtgtgccac gacccaagc tgccctacca cgacttcac   | 1680 |
| ctggaagatg ccgcctcccc caagtgcac atgaaggaaa agaagaagcc cggcgagact  | 1740 |
| ttcttcatgt gcagctgctc ctccgacgag tgcaacgaca acatcatctt ctccgaagag | 1800 |
| tacaacacct ccaaccccg ctgaggtacc                                   | 1830 |

<210> 121  
 <211> 657  
 <212> DNA  
 <213> Homo sapiens

<400> 121  
 gagctcgata tccagatgac ccagtcctcc tccagcctgt ccgcctctgt gggcgacaga 60  
 gtgaccatca cctgtttccgc cagccaggac atctccaact acctgaactg gtatcagcag 120  
 aagcccggca aggcccctaa ggtgctgata tactttcacct cctccctgca ctccggcgtg 180  
 ccctccagat tctccggctc tggctccggc accgacttta ccctgaccat ctccagcctg 240  
 cagcccaggg acttcgccac ctactactgc cagcagtact ccaccgtgcc ctggaccttc 300  
 ggccagggca ccaaggtgga aatcaagcgg accgtggccg ctccctccgt gttcatcttc 360  
 ccaccctccg acgagcagct gaagtccggc accgcctccg tcgtgtgcct gctgaacaac 420  
 ttctaccccc gcgaggccaa ggtgcagtgg aaggtggaca acgccctgca gtccggcaac 480  
 tcccaggaat ccgtcaccga gcaggactcc aaggacagca cctactccct gtcctccacc 540  
 ctgaccctgt ccaaggccga ctacgagaag cacaaggtgt acgcctgcga agtgaccac 600  
 cagggcctgt ccagccccgt gaccaagtcc ttcaaccggg gcgagtgtg aggtacc 657