

SEQUENCE LISTING

<110> Scil Technology GmbH

<120> Neuroendocrine factors for treatment of degenerative diseases

<130> 40794P PCT

<150> 07018131.8

<151> 2007-09-14

<150> 08006810.9

<151> 2008-04-03

<160> 21

<170> PatentIn version 3.5

<210> 1

<211> 1523

<212> PRT

<213> Homo sapiens

<400> 1

Met Ala Pro Gly Trp Ala Gly Val Gly Ala Ala Val Arg Ala Arg Leu
 1 5 10 15

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

Ala Cys Pro Thr Lys Cys Thr Cys Ser Ala Ala Ser Val Asp Cys His
 35 40 45

Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro Arg Asn Ala Glu
 50 55 60

Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg Ile Thr Lys Met Asp
 65 70 75 80

Phe Ala Gly Leu Lys Asn Leu Arg Val Leu His Leu Glu Asp Asn Gln
 85 90 95

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

Arg Leu Arg Leu Asn Lys Asn Lys Leu Gln Val Leu Pro Glu Leu Leu
 115 120 125

Phe Gln Ser Thr Pro Lys Leu Thr Arg Leu Asp Leu Ser Glu Asn Gln
 130 135 140

Ile Gln Gly Ile Pro Arg Lys Ala Phe Arg Gly Ile Thr Asp Val Lys
145 150 155 160

Asn Leu Gln Leu Asp Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala
165 170 175

Phe Arg Ala Leu Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Asn
180 185 190

Ile Ser Arg Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg
195 200 205

Thr Leu Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala
210 215 220

Trp Leu Ser Asp Trp Leu Arg Gln Arg Arg Thr Val Gly Gln Phe Thr
225 230 235 240

Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp Val
245 250 255

Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro Pro Ser
260 265 270

Cys Asn Ala Asn Ser Ile Ser Cys Pro Ser Pro Cys Thr Cys Ser Asn
275 280 285

Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu Ile Pro Ala Asn
290 295 300

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

Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile
325 330 335

Asp Ile Ser Lys Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln
340 345 350

Gly Leu Lys Ser Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr
355 360 365

Glu Ile Ala Lys Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu
370 375 380

Leu Leu Asn Ala Asn Lys Ile Asn Cys Leu Arg Val Asn Thr Phe Gln
385 390 395 400

Asp Leu Gln Asn Leu Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln
405 410 415

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

His Leu Ala Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu
435 440 445

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

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

Lys Lys Phe Arg Cys Ser Gly Ser Glu Asp Tyr Arg Ser Arg Phe Ser
485 490 495

Ser Glu Cys Phe Met Asp Leu Val Cys Pro Glu Lys Cys Arg Cys Glu
500 505 510

Gly Thr Ile Val Asp Cys Ser Asn Gln Lys Leu Val Arg Ile Pro Ser
515 520 525

His Leu Pro Glu Tyr Val Thr Asp Leu Arg Leu Asn Asp Asn Glu Val
530 535 540

Ser Val Leu Glu Ala Thr Gly Ile Phe Lys Lys Leu Pro Asn Leu Arg
545 550 555 560

Lys Ile Asn Leu Ser Asn Asn Lys Ile Lys Glu Val Arg Glu Gly Ala
565 570 575

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

Leu Glu Thr Val His Gly Arg Val Phe Arg Gly Leu Ser Gly Leu Lys
595 600 605

Thr Leu Met Leu Arg Ser Asn Leu Ile Gly Cys Val Ser Asn Asp Thr
610 615 620

Phe Ala Gly Leu Ser Ser Val Arg Leu Leu Ser Leu Tyr Asp Asn Arg
625 630 635 640

Ile Thr Thr Ile Thr Pro Gly Ala Phe Thr Thr Leu Val Ser Leu Ser
645 650 655

Thr Ile Asn Leu Leu Ser Asn Pro Phe Asn Cys Asn Cys His Leu Ala
660 665 670

Trp Leu Gly Lys Trp Leu Arg Lys Arg Arg Ile Val Ser Gly Asn Pro
675 680 685

Arg Cys Gln Lys Pro Phe Phe Leu Lys Glu Ile Pro Ile Gln Asp Val
690 695 700

Ala Ile Gln Asp Phe Thr Cys Asp Gly Asn Glu Glu Ser Ser Cys Gln
705 710 715 720

Leu Ser Pro Arg Cys Pro Glu Gln Cys Thr Cys Met Glu Thr Val Val
725 730 735

Arg Cys Ser Asn Lys Gly Leu Arg Ala Leu Pro Arg Gly Met Pro Lys
740 745 750

Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr Ala Val Pro
755 760 765

Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile Asp Leu Ser Asn
770 775 780

Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His
785 790 795 800

Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile Pro Val
805 810 815

His Ala Phe Asn Gly Leu Arg Ser Leu Arg Val Leu Thr Leu His Gly
820 825 830

Asn Asp Ile Ser Ser Val Pro Glu Gly Ser Phe Asn Asp Leu Thr Ser
835 840 845

Leu Ser His Leu Ala Leu Gly Thr Asn Pro Leu His Cys Asp Cys Ser
850 855 860

Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly
865 870 875 880

Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu
885 890 895

Thr Thr Pro Thr His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn
900 905 910

Ile Val Ala Lys Cys Asn Ala Cys Leu Ser Ser Pro Cys Lys Asn Asn
915 920 925

Gly Thr Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro
930 935 940

Tyr Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile
945 950 955 960

Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser His
965 970 975

Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly Gln Arg
980 985 990

Cys Glu Ile Asn Pro Asp Asp Cys Glu Asp Asn Asp Cys Glu Asn Asn
995 1000 1005

Ala Thr Cys Val Asp Gly Ile Asn Asn Tyr Val Cys Ile Cys Pro
1010 1015 1020

Pro Asn Tyr Thr Gly Glu Leu Cys Asp Glu Val Ile Asp His Cys
1025 1030 1035

Val Pro Glu Leu Asn Leu Cys Gln His Glu Ala Lys Cys Ile Pro
1040 1045 1050

Leu Asp Lys Gly Phe Ser Cys Glu Cys Val Pro Gly Tyr Ser Gly
1055 1060 1065

Lys Leu Cys Glu Thr Asp Asn Asp Asp Cys Val Ala His Lys Cys
1070 1075 1080

Arg His Gly Ala Gln Cys Val Asp Thr Ile Asn Gly Tyr Thr Cys
1085 1090 1095

Thr Cys Pro Gln Gly Phe Ser Gly Pro Phe Cys Glu His Pro Pro
1100 1105 1110

Pro Met Val Leu Leu Gln Thr Ser Pro Cys Asp Gln Tyr Glu Cys
1115 1120 1125

Gln Asn Gly Ala Gln Cys Ile Val Val Gln Gln Glu Pro Thr Cys
1130 1135 1140

Arg Cys Pro Pro Gly Phe Ala Gly Pro Arg Cys Glu Lys Leu Ile
1145 1150 1155

Thr Val Asn Phe Val Gly Lys Asp Ser Tyr Val Glu Leu Ala Ser
1160 1165 1170

Ala Lys Val Arg Pro Gln Ala Asn Ile Ser Leu Gln Val Ala Thr
1175 1180 1185

Asp Lys Asp Asn Gly Ile Leu Leu Tyr Lys Gly Asp Asn Asp Pro
1190 1195 1200

Leu Ala Leu Glu Leu Tyr Gln Gly His Val Arg Leu Val Tyr Asp
1205 1210 1215

Ser Leu Ser Ser Pro Pro Thr Thr Val Tyr Ser Val Glu Thr Val
1220 1225 1230

Asn Asp Gly Gln Phe His Ser Val Glu Leu Val Thr Leu Asn Gln
1235 1240 1245

Thr Leu Asn Leu Val Val Asp Lys Gly Thr Pro Lys Ser Leu Gly
1250 1255 1260

Lys Leu Gln Lys Gln Pro Ala Val Gly Ile Asn Ser Pro Leu Tyr
1265 1270 1275

Leu Gly Gly Ile Pro Thr Ser Thr Gly Leu Ser Ala Leu Arg Gln
1280 1285 1290

Gly Thr Asp Arg Pro Leu Gly Gly Phe His Gly Cys Ile His Glu
1295 1300 1305

Val Arg Ile Asn Asn Glu Leu Gln Asp Phe Lys Ala Leu Pro Pro
1310 1315 1320

Gln Ser Leu Gly Val Ser Pro Gly Cys Lys Ser Cys Thr Val Cys
1325 1330 1335

Lys His Gly Leu Cys Arg Ser Val Glu Lys Asp Ser Val Val Cys
1340 1345 1350

Glu Cys Arg Pro Gly Trp Thr Gly Pro Leu Cys Asp Gln Glu Ala
1355 1360 1365

Arg Asp Pro Cys Leu Gly His Arg Cys His His Gly Lys Cys Val
1370 1375 1380

Ala Thr Gly Thr Ser Tyr Met Cys Lys Cys Ala Glu Gly Tyr Gly
1385 1390 1395

Gly Asp Leu Cys Asp Asn Lys Asn Asp Ser Ala Asn Ala Cys Ser
1400 1405 1410

Ala Phe Lys Cys His His Gly Gln Cys His Ile Ser Asp Gln Gly
1415 1420 1425

Glu Pro Tyr Cys Leu Cys Gln Pro Gly Phe Ser Gly Glu His Cys
1430 1435 1440

Gln Gln Glu Asn Pro Cys Leu Gly Gln Val Val Arg Glu Val Ile
1445 1450 1455

Arg Arg Gln Lys Gly Tyr Ala Ser Cys Ala Thr Ala Ser Lys Val
1460 1465 1470

Pro Ile Met Glu Cys Arg Gly Gly Cys Gly Pro Gln Cys Cys Gln
1475 1480 1485

Pro Thr Arg Ser Lys Arg Arg Lys Tyr Val Phe Gln Cys Thr Asp
1490 1495 1500

Gly Ser Ser Phe Val Glu Glu Val Glu Arg His Leu Glu Cys Gly
1505 1510 1515

Cys Leu Ala Cys Ser
1520

<210> 2
<211> 887
<212> PRT

<213> Homo sapiens

<400> 2

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

Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro Arg Asn Ala Glu
20 25 30

Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg Ile Thr Lys Met Asp
35 40 45

Phe Ala Gly Leu Lys Asn Leu Arg Val Leu His Leu Glu Asp Asn Gln
50 55 60

Val Ser Val Ile Glu Arg Gly Ala Phe Gln Asp Leu Lys Gln Leu Glu
65 70 75 80

Arg Leu Arg Leu Asn Lys Asn Lys Leu Gln Val Leu Pro Glu Leu Leu
85 90 95

Phe Gln Ser Thr Pro Lys Leu Thr Arg Leu Asp Leu Ser Glu Asn Gln
100 105 110

Ile Gln Gly Ile Pro Arg Lys Ala Phe Arg Gly Ile Thr Asp Val Lys
115 120 125

Asn Leu Gln Leu Asp Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala
130 135 140

Phe Arg Ala Leu Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Asn
145 150 155 160

Ile Ser Arg Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg
165 170 175

Thr Leu Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala
180 185 190

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

Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp Val
210 215 220

Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro Pro Ser
225 230 235 240

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

Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu Ile Pro Ala Asn
260 265 270

Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu Gln Asn Ser Ile Lys
275 280 285

Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile
290 295 300

Asp Ile Ser Lys Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln
305 310 315 320

Gly Leu Lys Ser Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr
325 330 335

Glu Ile Ala Lys Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu
340 345 350

Leu Leu Asn Ala Asn Lys Ile Asn Cys Leu Arg Val Asn Thr Phe Gln
355 360 365

Asp Leu Gln Asn Leu Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln
370 375 380

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

His Leu Ala Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu
405 410 415

Ala Asp Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys
420 425 430

Ser Ser Pro Arg Arg Leu Ala Asn Lys Arg Ile Ser Gln Ile Lys Ser
435 440 445

Lys Lys Phe Arg Cys Ser Gly Ser Glu Asp Tyr Arg Ser Arg Phe Ser
450 455 460

Ser Glu Cys Phe Met Asp Leu Val Cys Pro Glu Lys Cys Arg Cys Glu
465 470 475 480

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

His Leu Pro Glu Tyr Val Thr Asp Leu Arg Leu Asn Asp Asn Glu Val
500 505 510

Ser Val Leu Glu Ala Thr Gly Ile Phe Lys Lys Leu Pro Asn Leu Arg
515 520 525

Lys Ile Asn Leu Ser Asn Asn Lys Ile Lys Glu Val Arg Glu Gly Ala
530 535 540

Phe Asp Gly Ala Ala Ser Val Gln Glu Leu Met Leu Thr Gly Asn Gln
545 550 555 560

Leu Glu Thr Val His Gly Arg Val Phe Arg Gly Leu Ser Gly Leu Lys
565 570 575

Thr Leu Met Leu Arg Ser Asn Leu Ile Gly Cys Val Ser Asn Asp Thr
580 585 590

Phe Ala Gly Leu Ser Ser Val Arg Leu Leu Ser Leu Tyr Asp Asn Arg
595 600 605

Ile Thr Thr Ile Thr Pro Gly Ala Phe Thr Thr Leu Val Ser Leu Ser
610 615 620

Thr Ile Asn Leu Leu Ser Asn Pro Phe Asn Cys Asn Cys His Leu Ala
625 630 635 640

Trp Leu Gly Lys Trp Leu Arg Lys Arg Arg Ile Val Ser Gly Asn Pro
645 650 655

Arg Cys Gln Lys Pro Phe Phe Leu Lys Glu Ile Pro Ile Gln Asp Val
660 665 670

Ala Ile Gln Asp Phe Thr Cys Asp Gly Asn Glu Glu Ser Ser Cys Gln
675 680 685

Leu Ser Pro Arg Cys Pro Glu Gln Cys Thr Cys Met Glu Thr Val Val
690 695 700

Arg Cys Ser Asn Lys Gly Leu Arg Ala Leu Pro Arg Gly Met Pro Lys
705 710 715 720

Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr Ala Val Pro
725 730 735

Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile Asp Leu Ser Asn
740 745 750

Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His
755 760 765

Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile Pro Val
770 775 780

His Ala Phe Asn Gly Leu Arg Ser Leu Arg Val Leu Thr Leu His Gly
785 790 795 800

Asn Asp Ile Ser Ser Val Pro Glu Gly Ser Phe Asn Asp Leu Thr Ser
805 810 815

Leu Ser His Leu Ala Leu Gly Thr Asn Pro Leu His Cys Asp Cys Ser
820 825 830

Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly
835 840 845

Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu
850 855 860

Thr Thr Pro Thr His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn
865 870 875 880

Ile Val Ala Lys Cys Asn Ala
885

<210> 3
<211> 244
<212> PRT
<213> Homo sapiens

<400> 3

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

Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro Arg Asn Ala Glu

20

25

30

Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg Ile Thr Lys Met Asp
 35 40 45

Phe Ala Gly Leu Lys Asn Leu Arg Val Leu His Leu Glu Asp Asn Gln
 50 55 60

Val Ser Val Ile Glu Arg Gly Ala Phe Gln Asp Leu Lys Gln Leu Glu
 65 70 75 80

Arg Leu Arg Leu Asn Lys Asn Lys Leu Gln Val Leu Pro Glu Leu Leu
 85 90 95

Phe Gln Ser Thr Pro Lys Leu Thr Arg Leu Asp Leu Ser Glu Asn Gln
 100 105 110

Ile Gln Gly Ile Pro Arg Lys Ala Phe Arg Gly Ile Thr Asp Val Lys
 115 120 125

Asn Leu Gln Leu Asp Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala
 130 135 140

Phe Arg Ala Leu Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Asn
 145 150 155 160

Ile Ser Arg Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg
 165 170 175

Thr Leu Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala
 180 185 190

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

Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp Val
 210 215 220

Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro Pro Ser
 225 230 235 240

Cys Asn Ala Asn

<211> 221
<212> PRT
<213> Homo sapiens

<400> 4

Asp Leu Val Cys Pro Glu Lys Cys Arg Cys Glu Gly Thr Ile Val Asp
1 5 10 15

Cys Ser Asn Gln Lys Leu Val Arg Ile Pro Ser His Leu Pro Glu Tyr
20 25 30

Val Thr Asp Leu Arg Leu Asn Asp Asn Glu Val Ser Val Leu Glu Ala
35 40 45

Thr Gly Ile Phe Lys Lys Leu Pro Asn Leu Arg Lys Ile Asn Leu Ser
50 55 60

Asn Asn Lys Ile Lys Glu Val Arg Glu Gly Ala Phe Asp Gly Ala Ala
65 70 75 80

Ser Val Gln Glu Leu Met Leu Thr Gly Asn Gln Leu Glu Thr Val His
85 90 95

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

Ser Asn Leu Ile Gly Cys Val Ser Asn Asp Thr Phe Ala Gly Leu Ser
115 120 125

Ser Val Arg Leu Leu Ser Leu Tyr Asp Asn Arg Ile Thr Thr Ile Thr
130 135 140

Pro Gly Ala Phe Thr Thr Leu Val Ser Leu Ser Thr Ile Asn Leu Leu
145 150 155 160

Ser Asn Pro Phe Asn Cys Asn Cys His Leu Ala Trp Leu Gly Lys Trp
165 170 175

Leu Arg Lys Arg Arg Ile Val Ser Gly Asn Pro Arg Cys Gln Lys Pro
180 185 190

Phe Phe Leu Lys Glu Ile Pro Ile Gln Asp Val Ala Ile Gln Asp Phe
195 200 205

Thr Cys Asp Gly Asn Glu Glu Ser Ser Cys Gln Leu Ser
210 215 220

<210> 5
<211> 196
<212> PRT
<213> Homo sapiens

<400> 5

Pro Arg Cys Pro Glu Gln Cys Thr Cys Met Glu Thr Val Val Arg Cys
1 5 10 15

Ser Asn Lys Gly Leu Arg Ala Leu Pro Arg Gly Met Pro Lys Asp Val
20 25 30

Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr Ala Val Pro Arg Glu
35 40 45

Leu Ser Ala Leu Arg His Leu Thr Leu Ile Asp Leu Ser Asn Asn Ser
50 55 60

Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His Leu Ser
65 70 75 80

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

Phe Asn Gly Leu Arg Ser Leu Arg Val Leu Thr Leu His Gly Asn Asp
100 105 110

Ile Ser Ser Val Pro Glu Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser
115 120 125

His Leu Ala Leu Gly Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg
130 135 140

Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly Ile Ala
145 150 155 160

Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu Thr Thr
165 170 175

Pro Thr His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn Ile Val
180 185 190

Ala Lys Cys Asn
195

<210> 6
<211> 225
<212> PRT
<213> Homo sapiens

<400> 6

Ser Ile Ser Cys Pro Ser Pro Cys Thr Cys Ser Asn Asn Ile Val Asp
1 5 10 15

Cys Arg Gly Lys Gly Leu Met Glu Ile Pro Ala Asn Leu Pro Glu Gly
20 25 30

Ile Val Glu Ile Arg Leu Glu Gln Asn Ser Ile Lys Ala Ile Pro Ala
35 40 45

Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys
50 55 60

Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser
65 70 75 80

Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys
85 90 95

Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala
100 105 110

Asn Lys Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn
115 120 125

Leu Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys
130 135 140

Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala Gln
145 150 155 160

Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp Tyr Leu
165 170 175

Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser Ser Pro Arg
180 185 190

Arg Leu Ala Asn Lys Arg Ile Ser Gln Ile Lys Ser Lys Lys Phe Arg
195 200 205

Cys Ser Gly Ser Glu Asp Tyr Arg Ser Arg Phe Ser Ser Glu Cys Phe
210 215 220

Met
225

<210> 7
<211> 886
<212> PRT
<213> Homo sapiens

<400> 7

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

Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro Arg Asn Ala Glu
20 25 30

Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg Ile Thr Lys Met Asp
35 40 45

Phe Ala Gly Leu Lys Asn Leu Arg Val Leu His Leu Glu Asp Asn Gln
50 55 60

Val Ser Val Ile Glu Arg Gly Ala Phe Gln Asp Leu Lys Gln Leu Glu
65 70 75 80

Arg Leu Arg Leu Asn Lys Asn Lys Leu Gln Val Leu Pro Glu Leu Leu
85 90 95

Phe Gln Ser Thr Pro Lys Leu Thr Arg Leu Asp Leu Ser Glu Asn Gln
100 105 110

Ile Gln Gly Ile Pro Arg Lys Ala Phe Arg Gly Ile Thr Asp Val Lys
115 120 125

Asn Leu Gln Leu Asp Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala
130 135 140

Phe Arg Ala Leu Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Asn
145 150 155 160

Ile Ser Arg Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg
165 170 175

Thr Leu Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala

180

185

190

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

Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp Val
 210 215 220

Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro Pro Ser
 225 230 235 240

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

Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu Ile Pro Ala Asn
 260 265 270

Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu Gln Asn Ser Ile Lys
 275 280 285

Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile
 290 295 300

Asp Ile Ser Lys Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln
 305 310 315 320

Gly Leu Lys Ser Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr
 325 330 335

Glu Ile Ala Lys Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu
 340 345 350

Leu Leu Asn Ala Asn Lys Ile Asn Cys Leu Arg Val Asn Thr Phe Gln
 355 360 365

Asp Leu Gln Asn Leu Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln
 370 375 380

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

His Leu Ala Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu
 405 410 415

Ala Asp Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys

420

425

430

Ser Ser Pro Arg Arg Leu Ala Asn Lys Arg Ile Ser Gln Ile Lys Ser
 435 440 445

Lys Lys Phe Arg Cys Ser Gly Ser Glu Asp Tyr Arg Ser Arg Phe Ser
 450 455 460

Ser Glu Cys Phe Met Asp Leu Val Cys Pro Glu Lys Cys Arg Cys Glu
 465 470 475 480

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

His Leu Pro Glu Tyr Val Thr Asp Leu Arg Leu Asn Asp Asn Glu Val
 500 505 510

Ser Val Leu Glu Ala Thr Gly Ile Phe Lys Lys Leu Pro Asn Leu Arg
 515 520 525

Lys Ile Asn Leu Ser Asn Asn Lys Ile Lys Glu Val Arg Glu Gly Ala
 530 535 540

Phe Asp Gly Ala Ala Ser Val Gln Glu Leu Met Leu Thr Gly Asn Gln
 545 550 555 560

Leu Glu Thr Val His Gly Arg Val Phe Arg Gly Leu Ser Gly Leu Lys
 565 570 575

Thr Leu Met Leu Arg Ser Asn Leu Ile Gly Cys Val Ser Asn Asp Thr
 580 585 590

Phe Ala Gly Leu Ser Ser Val Arg Leu Leu Ser Leu Tyr Asp Asn Arg
 595 600 605

Ile Thr Thr Ile Thr Pro Gly Ala Phe Thr Thr Leu Val Ser Leu Ser
 610 615 620

Thr Ile Asn Leu Leu Ser Asn Pro Phe Asn Cys Asn Cys His Leu Ala
 625 630 635 640

Trp Leu Gly Lys Trp Leu Arg Lys Arg Arg Ile Val Ser Gly Asn Pro
 645 650 655

Arg Cys Gln Lys Pro Phe Phe Leu Lys Glu Ile Pro Ile Gln Asp Val

660	665	670
Ala Ile Gln Asp Phe Thr Cys Asp Gly Asn Glu Glu Ser Ser Cys Gln		
675	680	685
Leu Ser Pro Arg Cys Pro Glu Gln Cys Thr Cys Met Glu Thr Val Val		
690	695	700
Arg Cys Ser Asn Lys Gly Leu Arg Ala Leu Pro Arg Gly Met Pro Lys		
705	710	715
720		
Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr Ala Val Pro		
725	730	735
Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile Asp Leu Ser Asn		
740	745	750
Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe Ser Asn Met Ser His		
755	760	765
Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile Pro Val		
770	775	780
His Ala Phe Asn Gly Leu Arg Ser Leu Arg Val Leu Thr Leu His Gly		
785	790	795
800		
Asn Asp Ile Ser Ser Val Pro Glu Gly Ser Phe Asn Asp Leu Thr Ser		
805	810	815
Leu Ser His Leu Ala Leu Gly Thr Asn Pro Leu His Cys Asp Cys Ser		
820	825	830
Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly		
835	840	845
Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu		
850	855	860
Thr Thr Pro Thr His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn		
865	870	875
880		
Ile Val Ala Lys Cys Asn		
885		

<211> 223
<212> PRT
<213> Homo sapiens

<400> 8

Ile Ser Cys Pro Ser Pro Cys Thr Cys Ser Asn Asn Ile Val Asp Cys
1 5 10 15

Arg Gly Lys Gly Leu Met Glu Ile Pro Ala Asn Leu Pro Glu Gly Ile
20 25 30

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

Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys Asn
50 55 60

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

Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys Gly
85 90 95

Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn
100 105 110

Lys Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn Leu
115 120 125

Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys Gly
130 135 140

Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala Gln Asn
145 150 155 160

Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp Tyr Leu Gln
165 170 175

Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser Ser Pro Arg Arg
180 185 190

Leu Ala Asn Lys Arg Ile Ser Gln Ile Lys Ser Lys Lys Phe Arg Cys
195 200 205

Ser Gly Ser Glu Asp Tyr Arg Ser Arg Phe Ser Ser Glu Cys Phe
210 215 220

<210> 9
<211> 130
<212> PRT
<213> Homo sapiens

<400> 9

Ile Val Glu Ile Arg Leu Glu Gln Asn Ser Ile Lys Ala Ile Pro Ala
1 5 10 15

Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys
20 25 30

Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser
35 40 45

Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys
50 55 60

Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala
65 70 75 80

Asn Lys Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn
85 90 95

Leu Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys
100 105 110

Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala Gln
115 120 125

Asn Pro
130

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

<400> 10

Met Met Arg Ala Val Trp Glu Ala Leu Ala Ala Leu Ala Ala Val Ala
1 5 10 15

Cys Leu Val Gly Ala Val Arg Gly Gly Pro Gly Leu Ser Met Phe Ala
20 25 30

Gly Gln Ala Ala Gln Pro Asp Pro Cys Ser Asp Glu Asn Gly His Pro
35 40 45

Arg Arg Cys Ile Pro Asp Phe Val Asn Ala Ala Phe Gly Lys Asp Val
50 55 60

Arg Val Ser Ser Thr Cys Gly Arg Pro Pro Ala Arg Tyr Cys Val Val
65 70 75 80

Ser Glu Arg Gly Glu Glu Arg Leu Arg Ser Cys His Leu Cys Asn Ala
85 90 95

Ser Asp Pro Lys Lys Ala His Pro Pro Ala Phe Leu Thr Asp Leu Asn
100 105 110

Asn Pro His Asn Leu Thr Cys Trp Gln Ser Glu Asn Tyr Leu Gln Phe
115 120 125

Pro His Asn Val Thr Leu Thr Leu Ser Leu Gly Lys Lys Phe Glu Val
130 135 140

Thr Tyr Val Ser Leu Gln Phe Cys Ser Pro Arg Pro Glu Ser Met Ala
145 150 155 160

Ile Tyr Lys Ser Met Asp Tyr Gly Arg Thr Trp Val Pro Phe Gln Phe
165 170 175

Tyr Ser Thr Gln Cys Arg Lys Met Tyr Asn Arg Pro His Arg Ala Pro
180 185 190

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

Asp Met Arg Pro Leu Ser Gly Gly Leu Ile Ala Phe Ser Thr Leu Asp
210 215 220

Gly Arg Pro Ser Ala His Asp Phe Asp Asn Ser Pro Val Leu Gln Asp
225 230 235 240

Trp Val Thr Ala Thr Asp Ile Arg Val Ala Phe Ser Arg Leu His Thr
245 250 255

Phe Gly Asp Glu Asn Glu Asp Asp Ser Glu Leu Ala Arg Asp Ser Tyr
260 265 270

Phe Tyr Ala Val Ser Asp Leu Gln Val Gly Gly Arg Cys Lys Cys Asn
275 280 285

Gly His Ala Ala Arg Cys Val Arg Asp Arg Asp Asp Ser Leu Val Cys
290 295 300

Asp Cys Arg His Asn Thr Ala Gly Pro Glu Cys Asp Arg Cys Lys Pro
305 310 315 320

Phe His Tyr Asp Arg Pro Trp Gln Arg Ala Thr Ala Arg Glu Ala Asn
325 330 335

Glu Cys Val Ala Cys Asn Cys Asn Leu His Ala Arg Arg Cys Arg Phe
340 345 350

Asn Met Glu Leu Tyr Lys Leu Ser Gly Arg Lys Ser Gly Gly Val Cys
355 360 365

Leu Asn Cys Arg His Asn Thr Ala Gly Arg His Cys His Tyr Cys Lys
370 375 380

Glu Gly Tyr Tyr Arg Asp Gly Lys Pro Ile Thr His Arg Lys Ala Cys
385 390 395 400

Lys Ala Cys Asp Cys His Pro Val Gly Ala Ala Gly Lys Thr Cys Asn
405 410 415

Gln Thr Thr Gly Gln Cys Pro Cys Lys Asp Gly Val Thr Gly Ile Thr
420 425 430

Cys Asn Arg Cys Ala Lys Gly Tyr Gln Gln Ser Arg Ser Pro Ile Ala
435 440 445

Pro Cys Ile Lys Ile Pro Val Ala Pro Pro Thr Thr Ala Ala Ser Ser
450 455 460

Val Glu Glu Pro Glu Asp Cys Asp Ser Tyr Cys Lys Ala Ser Lys Gly
465 470 475 480

Lys Leu Lys Ile Asn Met Lys Lys Tyr Cys Lys Lys Asp Tyr Ala Val
485 490 495

Gln Ile His Ile Leu Lys Ala Asp Lys Ala Gly Asp Trp Trp Lys Phe
500 505 510

Thr Val Asn Ile Ile Ser Val Tyr Lys Gln Gly Thr Ser Arg Ile Arg
515 520 525

Arg Gly Asp Gln Ser Leu Trp Ile Arg Ser Arg Asp Ile Ala Cys Lys
530 535 540

Cys Pro Lys Ile Lys Pro Leu Lys Lys Tyr Leu Leu Leu Gly Asn Ala
545 550 555 560

Glu Asp Ser Pro Asp Gln Ser Gly Ile Val Ala Asp Lys Ser Ser Leu
565 570 575

Val Ile Gln Trp Arg Asp Thr Trp Ala Arg Arg Leu Arg Lys Phe Gln
580 585 590

Gln Arg Glu Lys Lys Gly Lys Cys Lys Lys Ala
595 600

<210> 11
<211> 32
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(32)

<400> 11
gaccatatgg cccctgcccc accaagtgtgta cc
32

<210> 12
<211> 28
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(28)

<400> 12
gaccccgga ttgcatttgg ccacaatg
28

<210> 13
<211> 30
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(30)

<400> 13
gaccatatga tctcctgccc ttcgccctgc
30

<210> 14
<211> 29
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(29)

<400> 14
gaccccgggg aagcactcgc tgctgaacc
29

<210> 15
<211> 31
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(31)

<400> 15
gaccatatga tcgtcgaaat acgcctagaa c
31

<210> 16
<211> 30
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(30)

<400> 16
gaccccgggg gggttttggg ctaagtggag
30

<210> 17
<211> 30
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(30)

<400> 17
gaccatatgg acctcgtgtg ccccgagaag
30

<210> 18
<211> 30
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(30)

<400> 18
gaccccgggg ctcagctggc agctactctc
30

<210> 19
<211> 39
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(39)

<400> 19
ccaacaagat caacgccctg cgggttaaca cgtttcagg
39

<210> 20
<211> 39
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(39)

<400> 20
cctgaaacgt gttaaccgc agggcgttga tcttggttg
39

<210> 21
<211> 130
<212> PRT
<213> Homo sapiens

<400> 21

Ile Val Glu Ile Arg Leu Glu Gln Asn Ser Ile Lys Ala Ile Pro Ala
1 5 10 15

Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys
20 25 30

Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser
35 40 45

Leu Thr Ser Leu Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys
50 55 60

Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala
65 70 75 80

Asn Lys Ile Asn Ala Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn
85 90 95

Leu Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys
100 105 110

Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala Gln
115 120 125

Asn Pro
130