

SEQUENCE LISTING

<110> EditForce, Inc.
NATIONAL UNIVERSITY CORPORATION TOKAI NATIONAL HIGHER
EDUCATION AND RESEARCH SYSTEM
KYUSHU UNIVERSITY, NATIONAL UNIVERSITY CORPORATION

<120> Methods for Editing Target RNA

<130> F20840K-WO

<150> JP 2020-065065

<151> 2020-03-31

<160> 96

<170> PatentIn version 3.5

<210> 1

<211> 136

<212> PRT

<213> Artificial Sequence

<220>

<223> DYW:PG

<400> 1

Glu	Pro	Gly	Cys	Ser	Trp	Ile	Glu	Val	Asn	Asn	Lys	Val	His	Glu	Phe
1				5					10					15	

Val	Ala	Gly	Asp	Lys	Ser	His	Pro	Gln	Thr	Lys	Glu	Ile	Tyr	Ala	Glu
			20					25					30		

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

Thr	Lys	Phe	Val	Leu	His	Asp	Val	Glu	Glu	Glu	Glu	Lys	Glu	Gln	Leu
	50					55					60				

Leu	Cys	Tyr	His	Ser	Glu	Lys	Leu	Ala	Ile	Ala	Phe	Gly	Leu	Ile	Ser
65					70					75					80

Thr	Pro	Pro	Gly	Thr	Pro	Leu	Arg	Ile	Ile	Lys	Asn	Leu	Arg	Val	Cys
				85					90					95	

Gly	Asp	Cys	His	Thr	Ala	Thr	Lys	Phe	Ile	Ser	Lys	Ile	Val	Gly	Arg
			100					105					110		

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 2
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> DYW:WW

<400> 2

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 3
 <211> 133
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> DYW:KP

<400> 3

Lys Pro Ala Ser Ala Leu Ile Glu Val Asn Lys Lys Val His Glu Phe
 1 5 10 15

Val Val Gly Asn Asn Gln Ser Glu Glu Ile Ser Ala Met Leu Lys Ser
 20 25 30

Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro Asn Leu Asp Leu
 35 40 45

Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala Leu Cys Glu
 50 55 60

His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn Thr Pro Gln
 65 70 75 80

Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys Asn Asp Cys
 85 90 95

His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg Arg Glu Ile Ile
 100 105 110

Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp Gly Leu Cys Ser
 115 120 125

Cys Gly Asp Met Phe
 130

<210> 4
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>

<223> P1 motif

<400> 4

Phe Ser Trp Asn Ser Met Ile Arg Gly Tyr Ala Arg Ser Gly Gln Pro
1 5 10 15

Glu Glu Ala Leu Ser Leu Phe Ser Gln Met Arg Arg Ser Gly Ile Lys
20 25 30

Pro Asp Ser
35

<210> 5

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> L1 motif

<400> 5

Tyr Thr Phe Pro Phe Val Leu Lys Ala Cys Ala Ser Leu Ser Ser Leu
1 5 10 15

Glu Glu Gly Lys Gln Ile His Ala His Val Ile Lys Ser Gly Phe Glu
20 25 30

Ser Asp Val
35

<210> 6

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> S1 motif

<400> 6

Tyr Val Gln Ser Ser Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser Leu
1 5 10 15

Glu Asp Ala Arg Lys Val Phe Asp Glu Met Pro Glu Arg Asn Val
20 25 30

<210> 7
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> P1 motif

<400> 7

Val Ser Trp Asn Ala Met Ile Ser Gly Tyr Ala Gln Asn Gly Gln Ser
1 5 10 15

Glu Glu Ala Leu Glu Leu Phe Arg Glu Met Gln Lys Glu Gly Ile Lys
20 25 30

Pro Ser Glu
35

<210> 8
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> L1 motif

<400> 8

Phe Thr Phe Cys Ser Val Leu Lys Ala Cys Ala Ser Leu Gly Ser Leu
1 5 10 15

Glu Met Gly Lys Gln Ile His Gly Tyr Val Ile Lys Ser Gly Phe Glu
20 25 30

Ser Ile Val
35

<210> 9
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> S1 motif

<400> 9

Phe Val Gly Asn Ala Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser Leu
1 5 10 15

Glu Asp Ala Arg Lys Val Phe Asp Glu Met Pro Glu Arg Thr Val
20 25 30

<210> 10

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> P1 motif

<400> 10

Val Ser Trp Thr Ala Met Ile Ser Gly Tyr Ala Gln Asn Gly Gln Ser
1 5 10 15

Glu Glu Ala Leu Glu Leu Phe Arg Glu Met Gln Arg Glu Gly Val Lys
20 25 30

Pro Asp Glu
35

<210> 11

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> L1 motif

<400> 11

Val Thr Leu Pro Ser Val Leu Ser Ala Cys Ala Asn Leu Gly Ala Leu
1 5 10 15

Glu Gln Gly Lys Gln Ile His Ala Tyr Val Ile Lys Asn Gly Phe Glu
20 25 30

Ser Asp Val
35

<210> 12
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> S1 motif

<400> 12

Phe Val Gly Ser Ala Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser Ile
1 5 10 15

Glu Glu Ala Arg Lys Val Phe Asp Glu Met Pro Glu Lys Asp Val
20 25 30

<210> 13
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> P motif

<400> 13

Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val
1 5 10 15

Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val Lys
20 25 30

Pro Asn Val
35

<210> 14
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> P motif

<400> 14

Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Arg Leu
1 5 10 15

Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu Lys Gly Ile Lys
 20 25 30

Pro Asp Val
 35

<210> 15
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> P motif

<400> 15

Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser Gly Lys Ile
 1 5 10 15

Glu Glu Ala Leu Lys Leu Phe Lys Glu Met Glu Glu Lys Gly Ile Thr
 20 25 30

Pro Ser Val
 35

<210> 16
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> P motif

<400> 16

Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val
 1 5 10 15

Asp Glu Ala Leu Glu Leu Phe Asp Glu Met Lys Glu Arg Gly Ile Lys
 20 25 30

Pro Asp Val
 35

<210> 17
 <211> 35

<212> PRT
<213> Artificial Sequence

<220>
<223> P2 motif

<400> 17

Val Ser Trp Asn Ala Met Ile Ala Ala Tyr Ala Gln His Gly His Gly
1 5 10 15

Lys Glu Ala Leu Gln Leu Phe Gln Gln Met Gln Gln Glu Gly Val Lys
20 25 30

Pro Ser Glu
35

<210> 18
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> L2 motif

<400> 18

Val Thr Phe Thr Ser Ile Leu Ser Ala Cys Ser His Ala Gly Leu Val
1 5 10 15

Asp Glu Gly His His Tyr Phe Glu Ser Met Ser Pro Asp Tyr Gly Ile
20 25 30

Thr Pro Arg Val
35

<210> 19
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> S2 motif

<400> 19

Glu His Tyr Gly Cys Met Val Asp Leu Leu Gly Arg Ala Gly Arg Leu
1 5 10 15

Asp Glu Ala Glu Asp Leu Ile Lys Ser Met Pro Phe Gln Pro Asn Val
 20 25 30

<210> 20
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> E1 motif

<400> 20

Val Val Trp Gly Thr Leu Leu Gly Ala Cys Arg Val His Gly Asp Val
 1 5 10 15

Glu Arg Gly Glu Arg Ala Ala Glu Arg Ile Leu Glu Leu Asp Pro Glu
 20 25 30

Ser Ala

<210> 21
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> E2 motif

<400> 21

Ala Pro Tyr Val Leu Leu Ser Asn Ile Tyr Ala Ala Ala Gly Arg Trp
 1 5 10 15

Asp Glu Ala Ala Lys Val Arg Lys Leu Met Lys Glu Arg Gly Val Lys
 20 25 30

Lys

<210> 22
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>

<223> P2 motif

<400> 22

Val Thr Trp Asn Ala Leu Ile Ala Gly Tyr Ala Arg Gln Gly Glu Ser
1 5 10 15

Asp Leu Val Phe His Leu Leu Glu Arg Met Arg Gln Glu Gly Ile Gln
20 25 30

Pro Ser Gly
35

<210> 23

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> L2 motif

<400> 23

Val Thr Phe Thr Ser Val Leu Thr Val Cys Ser His Ala Gly Leu Val
1 5 10 15

Asp Glu Gly Gln Lys Tyr Phe Asp Ala Met Ser Glu Asp Tyr Gly Ile
20 25 30

Thr Pro Arg Ile
35

<210> 24

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> S2 motif

<400> 24

Glu His Tyr Gly Cys Met Val Asp Leu Leu Gly Arg Ala Gly Gln Met
1 5 10 15

Asp Glu Ala Val Ala Met Val Glu Lys Met Pro Phe Gln Pro Asn Leu
 20 25 30

<210> 25
 <211> 34
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> E1 motif

<400> 25

Val Thr Trp Gly Thr Leu Leu Gly Ala Cys Arg Lys Trp Asn Asn Val
 1 5 10 15

Glu Ile Gly Arg His Ala Phe Glu Cys Ala Val Arg Leu Asp Glu Lys
 20 25 30

Ser Ala

<210> 26
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> E2 motif

<400> 26

Ala Ala Tyr Val Leu Met Ser Asn Ile Tyr Ala Asp Ala His Met Trp
 1 5 10 15

Glu Glu Arg Asp Lys Ile Gln Ala Met Arg Lys Asn Ala Arg Ala Trp
 20 25 30

Lys

<210> 27
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>

<223> P2 motif

<400> 27

Val Ala Trp Asn Ser Met Ile Lys Gly Tyr Gly Met Asn His Glu Gly
1 5 10 15

Lys Met Ala Val Gln Cys Phe Glu Asp Met Gln Lys Gln Gly Val Lys
20 25 30

Pro Ser Ala
35

<210> 28

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> L2 motif

<400> 28

Val Thr Phe Thr Cys Leu Leu Thr Ala Cys Ser His Ala Ser Leu Val
1 5 10 15

Ser Glu Gly Gln Glu Tyr Phe Lys Met Met Arg Glu Glu Tyr Gly Ile
20 25 30

Ala Pro Arg Val
35

<210> 29

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> S2 motif

<400> 29

Glu His Tyr Gly Cys Met Val Asp Leu Leu Ala Arg Ser Gly His Leu
1 5 10 15

Tyr Glu Ala Glu Lys Phe Leu Glu Met Leu Cys Pro Pro Asn Glu
20 25 30

<210> 30
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> E1 motif

<400> 30

Gly Thr Trp Gly Ala Leu Leu Ser Ala Cys Lys Thr Tyr Gly Glu Val
1 5 10 15

Glu Leu Gly Leu Arg Cys Phe Gln Gln Leu Val Gln Leu Asn Pro Glu
20 25 30

Ser Ala

<210> 31
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> E2 motif

<400> 31

Ala Trp Tyr Val Leu Met Ala Asp Ile Tyr Ala Gly Ala Gly Arg Trp
1 5 10 15

Asp Asp Ala Tyr Arg Ile Glu Glu Leu Arg Lys His Ala Gly Ala Lys
20 25 30

Lys

<210> 32
<211> 7
<212> PRT
<213> Simian virus 40

<400> 32

Pro Lys Lys Lys Arg Lys Val

1

5

<210> 33
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> nucleoplasmin NLS

<400> 33

Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
 1 5 10 15

<210> 34
 <211> 17
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Taget sequence

<400> 34
 auuacacgug caaaaauy

17

<210> 35
 <211> 610
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PLS array (3 P1L1S1 triplets) + DYW:PG-lyc

<400> 35

Val Phe Ser Trp Asn Ser Met Ile Arg Gly Tyr Ala Arg Asn Gly Gln
 1 5 10 15

Pro Glu Glu Ala Leu Ser Leu Tyr Ser Gln Met Arg Arg Ser Gly Ile
 20 25 30

Lys Pro Asp Asn Tyr Thr Phe Pro Phe Val Leu Lys Ala Cys Ala Ser
 35 40 45

Leu Ser Ser Leu Lys Glu Gly Lys Gln Ile His Gly His Val Ile Lys
 50 55 60

Ser Gly Phe Glu Ser Asp Val Tyr Val Gln Ser Ala Leu Ile Asp Met
65 70 75 80

Tyr Ala Lys Cys Gly Glu Leu Glu Asp Ala Arg Lys Val Phe Asp Glu
85 90 95

Met Pro Glu Arg Asn Val Val Ser Trp Asn Ala Met Ile Ser Gly Tyr
100 105 110

Ala Gln Asn Gly Gln Ser Glu Glu Ala Leu Glu Leu Phe Arg Glu Met
115 120 125

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

Ser Ala Cys Ala Ser Leu Gly Ser Leu Glu Met Gly Lys Gln Ile His
145 150 155 160

Gly Tyr Val Ile Lys Ser Gly Phe Glu Ser Ile Val Phe Val Gly Asn
165 170 175

Ala Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser Ile Glu Asp Ala Arg
180 185 190

Lys Val Phe Asp Glu Met Pro Glu Arg Thr Val Val Ser Trp Thr Ala
195 200 205

Met Ile Ser Gly Tyr Ala Gln Asn Gly Gln Ser Glu Glu Ala Leu Glu
210 215 220

Leu Phe Arg Glu Met Gln Arg Glu Gly Val Lys Pro Asp Glu Val Thr
225 230 235 240

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

Gly Lys Gln Ile His Ala Tyr Val Ile Lys Ser Gly Phe Glu Ser Asp
260 265 270

Val Phe Val Gly Ser Ala Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser

275	280	285
Ile Glu Asp Ala Arg Lys Val Phe Asp Lys Met Pro Glu Arg Asp Val 290 295 300		
Val Ser Trp Asn Ala Met Ile Ala Ala Tyr Ala Gln His Gly His Gly 305 310 315 320		
Lys Glu Ala Leu Gln Leu Phe Gln Gln Met Gln Gln Glu Gly Val Lys 325 330 335		
Pro Ser Glu Val Thr Phe Thr Ser Ile Leu Ser Ala Cys Ser His Ala 340 345 350		
Gly Leu Val Asp Glu Gly His His Tyr Phe Glu Ser Met Ser Pro Asp 355 360 365		
Tyr Gly Ile Thr Pro Arg Val Glu His Tyr Gly Cys Met Val Asp Leu 370 375 380		
Leu Gly Arg Ala Gly Arg Leu Asp Glu Ala Glu Asp Leu Ile Lys Ser 385 390 395 400		
Met Pro Phe Gln Pro Asn Val Val Val Trp Gly Thr Leu Leu Gly Ala 405 410 415		
Cys Arg Val His Gly Asp Val Glu Arg Gly Glu Arg Ala Ala Glu Arg 420 425 430		
Ile Leu Glu Leu Asp Pro Glu Ser Ala Ala Pro Tyr Val Leu Leu Ser 435 440 445		
Asn Ile Tyr Ala Ala Ala Gly Arg Trp Asp Glu Ala Ala Lys Val Arg 450 455 460		
Lys Leu Met Lys Glu Arg Gly Val Lys Lys Glu Pro Gly Cys Ser Trp 465 470 475 480		
Ile Glu Val Asn Asn Lys Val His Glu Phe Val Ala Gly Asp Lys Ser 485 490 495		

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

Gln Met Lys Glu Ala Gly Tyr Val Pro Asp Thr Lys Phe Val Leu His
515 520 525

Asp Val Glu Glu Glu Glu Lys Glu Gln Leu Leu Cys Tyr His Ser Glu
530 535 540

Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser Thr Pro Pro Gly Thr Pro
545 550 555 560

Leu Arg Ile Ile Lys Asn Leu Arg Val Cys Gly Asp Cys His Thr Ala
565 570 575

Thr Lys Phe Ile Ser Lys Ile Val Gly Arg Glu Ile Val Val Arg Asp
580 585 590

Ala Asn Arg Phe His His Phe Lys Asp Gly Val Cys Ser Cys Gly Asp
595 600 605

Tyr Trp
610

<210> 36
<211> 611
<212> PRT
<213> Artificial Sequence

<220>
<223> PLS array (3 P1L1S1 triplets) + DYW:WW-WW5

<400> 36

Val Phe Ser Trp Asn Ser Met Ile Arg Gly Tyr Ala Arg Asn Gly Gln
1 5 10 15

Pro Glu Glu Ala Leu Ser Leu Tyr Ser Gln Met Arg Arg Ser Gly Ile
20 25 30

Lys Pro Asp Asn Tyr Thr Phe Pro Phe Val Leu Lys Ala Cys Ala Ser
35 40 45

Leu Ser Ser Leu Lys Glu Gly Lys Gln Ile His Gly His Val Ile Lys
50 55 60

Ser Gly Phe Glu Ser Asp Val Tyr Val Gln Ser Ala Leu Ile Asp Met
65 70 75 80

Tyr Ala Lys Cys Gly Glu Leu Glu Asp Ala Arg Lys Val Phe Asp Glu
85 90 95

Met Pro Glu Arg Asn Val Val Ser Trp Asn Ala Met Ile Ser Gly Tyr
100 105 110

Ala Gln Asn Gly Gln Ser Glu Glu Ala Leu Glu Leu Phe Arg Glu Met
115 120 125

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

Ser Ala Cys Ala Ser Leu Gly Ser Leu Glu Met Gly Lys Gln Ile His
145 150 155 160

Gly Tyr Val Ile Lys Ser Gly Phe Glu Ser Ile Val Phe Val Gly Asn
165 170 175

Ala Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser Ile Glu Asp Ala Arg
180 185 190

Lys Val Phe Asp Glu Met Pro Glu Arg Thr Val Val Ser Trp Thr Ala
195 200 205

Met Ile Ser Gly Tyr Ala Gln Asn Gly Gln Ser Glu Glu Ala Leu Glu
210 215 220

Leu Phe Arg Glu Met Gln Arg Glu Gly Val Lys Pro Asp Glu Val Thr
225 230 235 240

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

Gly Lys Gln Ile His Ala Tyr Val Ile Lys Ser Gly Phe Glu Ser Asp

260	265	270
Val Phe Val Gly Ser Ala Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser		
275	280	285
Ile Glu Asp Ala Arg Lys Val Phe Asp Lys Met Pro Glu Arg Asp Val		
290	295	300
Val Thr Trp Asn Ala Leu Ile Ala Gly Tyr Ala Arg Gln Gly Glu Ser		
305	310	315
Asp Leu Val Phe His Leu Leu Glu Arg Met Arg Gln Glu Gly Ile Gln		
325	330	335
Pro Ser Gly Val Thr Phe Thr Ser Val Leu Thr Val Cys Ser His Ala		
340	345	350
Gly Leu Val Asp Glu Gly Gln Lys Tyr Phe Asp Ala Met Ser Glu Asp		
355	360	365
Tyr Gly Ile Thr Pro Arg Ile Glu His Tyr Gly Cys Met Val Asp Leu		
370	375	380
Leu Gly Arg Ala Gly Gln Met Asp Glu Ala Val Ala Met Val Glu Lys		
385	390	395
Met Pro Phe Gln Pro Asn Leu Val Thr Trp Gly Thr Leu Leu Gly Ala		
405	410	415
Cys Arg Lys Trp Asn Asn Val Glu Ile Gly Arg His Ala Phe Glu Cys		
420	425	430
Ala Val Arg Leu Asp Glu Lys Ser Ala Ala Ala Tyr Val Leu Met Ser		
435	440	445
Asn Ile Tyr Ala Asp Ala His Met Trp Glu Glu Arg Asp Lys Ile Gln		
450	455	460
Ala Met Arg Lys Asn Ala Arg Ala Trp Lys Lys Pro Gly Gln Ser Trp		
465	470	475
		480

Trp Thr Asp Thr Gly Gly Ile Val His Thr Phe Val Val Gly Asp Thr
485 490 495

Lys His Pro Gln Ser Gln Asp Ile Tyr Ala Lys Leu Lys Asp Leu Tyr
500 505 510

Val Lys Met Lys Glu Glu Gly Tyr Val Pro His Leu Asp Cys Val Leu
515 520 525

Trp Asp Ile Ser Asp Asp Glu Lys Glu Asp Ala Leu Cys Gly His Ser
530 535 540

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

Pro Ile Arg Ile Val Lys Asn Leu Arg Val Cys Asp Asp Cys His Lys
565 570 575

Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly Arg Asn Ile Ile Cys Arg
580 585 590

Asp Ala Ser Arg Phe His Asn Tyr Lys Asp Gly Lys Cys Ser Cys Gly
595 600 605

Asp Tyr Trp
610

<210> 37
<211> 606
<212> PRT
<213> Artificial Sequence

<220>
<223> PLS array (P1L1S1 triplets) + DYW:KP-lepto

<400> 37

Val Phe Ser Trp Asn Ser Met Ile Arg Gly Tyr Ala Arg Asn Gly Gln
1 5 10 15

Pro Glu Glu Ala Leu Ser Leu Tyr Ser Gln Met Arg Arg Ser Gly Ile
20 25 30

Lys Pro Asp Asn Tyr Thr Phe Pro Phe Val Leu Lys Ala Cys Ala Ser
35 40 45

Leu Ser Ser Leu Lys Glu Gly Lys Gln Ile His Gly His Val Ile Lys
50 55 60

Ser Gly Phe Glu Ser Asp Val Tyr Val Gln Ser Ala Leu Ile Asp Met
65 70 75 80

Tyr Ala Lys Cys Gly Glu Leu Glu Asp Ala Arg Lys Val Phe Asp Glu
85 90 95

Met Pro Glu Arg Asn Val Val Ser Trp Asn Ala Met Ile Ser Gly Tyr
100 105 110

Ala Gln Asn Gly Gln Ser Glu Glu Ala Leu Glu Leu Phe Arg Glu Met
115 120 125

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

Ser Ala Cys Ala Ser Leu Gly Ser Leu Glu Met Gly Lys Gln Ile His
145 150 155 160

Gly Tyr Val Ile Lys Ser Gly Phe Glu Ser Ile Val Phe Val Gly Asn
165 170 175

Ala Leu Ile Asp Met Tyr Ala Lys Cys Gly Ser Ile Glu Asp Ala Arg
180 185 190

Lys Val Phe Asp Glu Met Pro Glu Arg Thr Val Val Ser Trp Thr Ala
195 200 205

Met Ile Ser Gly Tyr Ala Gln Asn Gly Gln Ser Glu Glu Ala Leu Glu
210 215 220

Leu Phe Arg Glu Met Gln Arg Glu Gly Val Lys Pro Asp Glu Val Thr
225 230 235 240

Leu Pro Ser Val Leu Ser Ala Cys Ala Asn Leu Gly Ala Leu Glu Gln

					245						250						255
Gly	Lys	Gln	Ile	His	Ala	Tyr	Val	Ile	Lys	Ser	Gly	Phe	Glu	Ser	Asp		
			260				265						270				
Val	Phe	Val	Gly	Ser	Ala	Leu	Ile	Asp	Met	Tyr	Ala	Lys	Cys	Gly	Ser		
			275				280						285				
Ile	Glu	Asp	Ala	Arg	Lys	Val	Phe	Asp	Lys	Met	Pro	Glu	Arg	Asp	Val		
		290				295					300						
Val	Ala	Trp	Asn	Ser	Met	Ile	Lys	Gly	Tyr	Gly	Met	Asn	His	Glu	Gly		
305					310					315					320		
Lys	Met	Ala	Val	Gln	Cys	Phe	Glu	Asp	Met	Gln	Lys	Gln	Gly	Val	Lys		
			325					330						335			
Pro	Ser	Ala	Val	Thr	Phe	Thr	Cys	Leu	Leu	Thr	Ala	Cys	Ser	His	Ala		
			340					345					350				
Ser	Leu	Val	Ser	Glu	Gly	Gln	Glu	Tyr	Phe	Lys	Met	Met	Arg	Glu	Glu		
		355					360					365					
Tyr	Gly	Ile	Ala	Pro	Arg	Val	Glu	His	Tyr	Gly	Cys	Met	Val	Asp	Leu		
370					375					380							
Leu	Ala	Arg	Ser	Gly	His	Leu	Tyr	Glu	Ala	Glu	Lys	Phe	Leu	Glu	Met		
385					390					395		400					
Leu	Cys	Pro	Pro	Asn	Glu	Gly	Thr	Trp	Gly	Ala	Leu	Leu	Ser	Ala	Cys		
				405					410						415		
Lys	Thr	Tyr	Gly	Glu	Val	Glu	Leu	Gly	Leu	Arg	Cys	Phe	Gln	Gln	Leu		
			420					425					430				
Val	Gln	Leu	Asn	Pro	Glu	Ser	Ala	Ala	Trp	Tyr	Val	Leu	Met	Ala	Asp		
			435					440					445				
Ile	Tyr	Ala	Gly	Ala	Gly	Arg	Trp	Asp	Asp	Ala	Tyr	Arg	Ile	Glu	Glu		
450					455					460							

Leu Arg Lys His Ala Gly Ala Lys Lys Lys Pro Ala Ser Ala Leu Ile
 465 470 475 480

Glu Val Asn Lys Lys Val His Glu Phe Val Val Gly Asn Asn Gln Ser
 485 490 495

Glu Glu Ile Ser Ala Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu
 500 505 510

Glu Gly His Val Pro Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp
 515 520 525

Glu Glu Lys Glu Ala Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile
 530 535 540

Ala Phe Gly Leu Leu Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr
 545 550 555 560

Lys Asn Leu Arg Met Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile
 565 570 575

Ser Lys Ile Glu Arg Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile
 580 585 590

His His Phe Lys Asp Gly Leu Cys Ser Cys Gly Asp Met Phe
 595 600 605

<210> 38
 <211> 657
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> P array (10 PPR motifs) + DYW:PG-lyc

<400> 38

Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys
 1 5 10 15

Val Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val
 20 25 30

Lys Pro Asn Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys
35 40 45

Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu
50 55 60

Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Asn Thr Leu Ile Asp Gly
65 70 75 80

Leu Cys Lys Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu
85 90 95

Met Glu Glu Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Thr Thr Leu
100 105 110

Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu
115 120 125

Phe Lys Glu Met Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Tyr
130 135 140

Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser Gly Lys Ile Glu Glu Ala
145 150 155 160

Leu Lys Leu Phe Lys Glu Met Glu Glu Lys Gly Ile Thr Pro Ser Val
165 170 175

Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val
180 185 190

Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val Lys
195 200 205

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

Gly Lys Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met Glu Glu Lys
225 230 235 240

Gly Ile Thr Pro Ser Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu

245	250	255
Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Asp Glu Met		
260	265	270
Lys Glu Arg Gly Ile Lys Pro Asp Val Val Thr Tyr Asn Thr Leu Ile		
275	280	285
Asp Gly Leu Cys Lys Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu		
290	295	300
Glu Glu Met Glu Glu Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Thr		
305	310	315
Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu		
325	330	335
Glu Leu Phe Asp Glu Met Lys Glu Arg Gly Ile Lys Pro Asp Val Val		
340	345	350
Ser Trp Asn Ala Met Ile Ala Ala Tyr Ala Gln His Gly His Gly Lys		
355	360	365
Glu Ala Leu Gln Leu Phe Gln Gln Met Gln Gln Glu Gly Val Lys Pro		
370	375	380
Ser Glu Val Thr Phe Thr Ser Ile Leu Ser Ala Cys Ser His Ala Gly		
385	390	395
Leu Val Asp Glu Gly His His Tyr Phe Glu Ser Met Ser Pro Asp Tyr		
405	410	415
Gly Ile Thr Pro Arg Val Glu His Tyr Gly Cys Met Val Asp Leu Leu		
420	425	430
Gly Arg Ala Gly Arg Leu Asp Glu Ala Glu Asp Leu Ile Lys Ser Met		
435	440	445
Pro Phe Gln Pro Asn Val Val Val Trp Gly Thr Leu Leu Gly Ala Cys		
450	455	460

Arg Val His Gly Asp Val Glu Arg Gly Glu Arg Ala Ala Glu Arg Ile
 465 470 475 480

Leu Glu Leu Asp Pro Glu Ser Ala Ala Pro Tyr Val Leu Leu Ser Asn
 485 490 495

Ile Tyr Ala Ala Ala Gly Arg Trp Asp Glu Ala Ala Lys Val Arg Lys
 500 505 510

Leu Met Lys Glu Arg Gly Val Lys Lys Glu Pro Gly Cys Ser Trp Ile
 515 520 525

Glu Val Asn Asn Lys Val His Glu Phe Val Ala Gly Asp Lys Ser His
 530 535 540

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

Met Lys Glu Ala Gly Tyr Val Pro Asp Thr Lys Phe Val Leu His Asp
 565 570 575

Val Glu Glu Glu Glu Lys Glu Gln Leu Leu Cys Tyr His Ser Glu Lys
 580 585 590

Leu Ala Ile Ala Phe Gly Leu Ile Ser Thr Pro Pro Gly Thr Pro Leu
 595 600 605

Arg Ile Ile Lys Asn Leu Arg Val Cys Gly Asp Cys His Thr Ala Thr
 610 615 620

Lys Phe Ile Ser Lys Ile Val Gly Arg Glu Ile Val Val Arg Asp Ala
 625 630 635 640

Asn Arg Phe His His Phe Lys Asp Gly Val Cys Ser Cys Gly Asp Tyr
 645 650 655

Trp

<210> 39

<211> 658
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> P array (10 PPR motifs) + DYW:WW-WW5

<400> 39

Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys
 1 5 10 15

Val Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val
 20 25 30

Lys Pro Asn Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys
 35 40 45

Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu
 50 55 60

Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Asn Thr Leu Ile Asp Gly
 65 70 75 80

Leu Cys Lys Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu
 85 90 95

Met Glu Glu Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Thr Thr Leu
 100 105 110

Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu
 115 120 125

Phe Lys Glu Met Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Tyr
 130 135 140

Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser Gly Lys Ile Glu Glu Ala
 145 150 155 160

Leu Lys Leu Phe Lys Glu Met Glu Glu Lys Gly Ile Thr Pro Ser Val
 165 170 175

Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val

180	185	190
Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val Lys		
195	200	205
Pro Asn Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser		
210	215	220
Gly Lys Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met Glu Glu Lys		
225	230	235
Gly Ile Thr Pro Ser Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu		
245	250	255
Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Asp Glu Met		
260	265	270
Lys Glu Arg Gly Ile Lys Pro Asp Val Val Thr Tyr Asn Thr Leu Ile		
275	280	285
Asp Gly Leu Cys Lys Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu		
290	295	300
Glu Glu Met Glu Glu Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Thr		
305	310	315
Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu		
325	330	335
Glu Leu Phe Asp Glu Met Lys Glu Arg Gly Ile Lys Pro Asp Val Val		
340	345	350
Thr Trp Asn Ala Leu Ile Ala Gly Tyr Ala Arg Gln Gly Glu Ser Asp		
355	360	365
Leu Val Phe His Leu Leu Glu Arg Met Arg Gln Glu Gly Ile Gln Pro		
370	375	380
Ser Gly Val Thr Phe Thr Ser Val Leu Thr Val Cys Ser His Ala Gly		
385	390	395
		400

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

Gly Ile Thr Pro Arg Ile Glu His Tyr Gly Cys Met Val Asp Leu Leu
420 425 430

Gly Arg Ala Gly Gln Met Asp Glu Ala Val Ala Met Val Glu Lys Met
435 440 445

Pro Phe Gln Pro Asn Leu Val Thr Trp Gly Thr Leu Leu Gly Ala Cys
450 455 460

Arg Lys Trp Asn Asn Val Glu Ile Gly Arg His Ala Phe Glu Cys Ala
465 470 475 480

Val Arg Leu Asp Glu Lys Ser Ala Ala Tyr Val Leu Met Ser Asn
485 490 495

Ile Tyr Ala Asp Ala His Met Trp Glu Glu Arg Asp Lys Ile Gln Ala
500 505 510

Met Arg Lys Asn Ala Arg Ala Trp Lys Lys Pro Gly Gln Ser Trp Trp
515 520 525

Thr Asp Thr Gly Gly Ile Val His Thr Phe Val Val Gly Asp Thr Lys
530 535 540

His Pro Gln Ser Gln Asp Ile Tyr Ala Lys Leu Lys Asp Leu Tyr Val
545 550 555 560

Lys Met Lys Glu Glu Gly Tyr Val Pro His Leu Asp Cys Val Leu Trp
565 570 575

Asp Ile Ser Asp Asp Glu Lys Glu Asp Ala Leu Cys Gly His Ser Glu
580 585 590

Lys Leu Ala Ile Ala Cys Ala Leu Ile Asn Thr Pro Pro Gly Thr Pro
595 600 605

Ile Arg Ile Val Lys Asn Leu Arg Val Cys Asp Asp Cys His Lys Ala

610

615

620

Ile Ala Leu Ile Ser Lys Ile Glu Gly Arg Asn Ile Ile Cys Arg Asp
 625 630 635 640

Ala Ser Arg Phe His Asn Tyr Lys Asp Gly Lys Cys Ser Cys Gly Asp
 645 650 655

Tyr Trp

<210> 40

<211> 653

<212> PRT

<213> Artificial Sequence

<220>

<223> P array (10 PPR motifs) + DYW:KP-lepto

<400> 40

Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys
 1 5 10 15

Val Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val
 20 25 30

Lys Pro Asn Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys
 35 40 45

Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu
 50 55 60

Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Asn Thr Leu Ile Asp Gly
 65 70 75 80

Leu Cys Lys Ala Gly Arg Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu
 85 90 95

Met Glu Glu Lys Gly Ile Lys Pro Asp Val Val Thr Tyr Thr Thr Leu
 100 105 110

Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu

115	120	125															
Phe	Lys	Glu	Met	Arg	Ser	Lys	Gly	Val	Lys	Pro	Asn	Val	Val	Thr	Tyr		
130						135					140						
Asn	Thr	Leu	Ile	Asp	Gly	Leu	Cys	Lys	Ser	Gly	Lys	Ile	Glu	Glu	Ala		
145					150					155					160		
Leu	Lys	Leu	Phe	Lys	Glu	Met	Glu	Glu	Lys	Gly	Ile	Thr	Pro	Ser	Val		
				165					170					175			
Val	Thr	Tyr	Thr	Thr	Leu	Ile	Asp	Gly	Leu	Cys	Lys	Ala	Gly	Lys	Val		
			180					185					190				
Asp	Glu	Ala	Leu	Glu	Leu	Phe	Lys	Glu	Met	Arg	Ser	Lys	Gly	Val	Lys		
		195					200					205					
Pro	Asn	Val	Val	Thr	Tyr	Asn	Thr	Leu	Ile	Asp	Gly	Leu	Cys	Lys	Ser		
	210					215					220						
Gly	Lys	Ile	Glu	Glu	Ala	Leu	Lys	Leu	Phe	Lys	Glu	Met	Glu	Glu	Lys		
225					230					235					240		
Gly	Ile	Thr	Pro	Ser	Val	Val	Thr	Tyr	Thr	Thr	Leu	Ile	Asp	Gly	Leu		
				245					250					255			
Cys	Lys	Ala	Gly	Lys	Val	Asp	Glu	Ala	Leu	Glu	Leu	Phe	Asp	Glu	Met		
			260					265					270				
Lys	Glu	Arg	Gly	Ile	Lys	Pro	Asp	Val	Val	Thr	Tyr	Asn	Thr	Leu	Ile		
		275					280					285					
Asp	Gly	Leu	Cys	Lys	Ala	Gly	Arg	Leu	Asp	Glu	Ala	Glu	Glu	Leu	Leu		
	290					295					300						
Glu	Glu	Met	Glu	Glu	Lys	Gly	Ile	Lys	Pro	Asp	Val	Val	Thr	Tyr	Thr		
305					310					315					320		
Thr	Leu	Ile	Asp	Gly	Leu	Cys	Lys	Ala	Gly	Lys	Val	Asp	Glu	Ala	Leu		
				325					330					335			

Glu Leu Phe Asp Glu Met Lys Glu Arg Gly Ile Lys Pro Asp Val Val
340 345 350

Ala Trp Asn Ser Met Ile Lys Gly Tyr Gly Met Asn His Glu Gly Lys
355 360 365

Met Ala Val Gln Cys Phe Glu Asp Met Gln Lys Gln Gly Val Lys Pro
370 375 380

Ser Ala Val Thr Phe Thr Cys Leu Leu Thr Ala Cys Ser His Ala Ser
385 390 395 400

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

Gly Ile Ala Pro Arg Val Glu His Tyr Gly Cys Met Val Asp Leu Leu
420 425 430

Ala Arg Ser Gly His Leu Tyr Glu Ala Glu Lys Phe Leu Glu Met Leu
435 440 445

Cys Pro Pro Asn Glu Gly Thr Trp Gly Ala Leu Leu Ser Ala Cys Lys
450 455 460

Thr Tyr Gly Glu Val Glu Leu Gly Leu Arg Cys Phe Gln Gln Leu Val
465 470 475 480

Gln Leu Asn Pro Glu Ser Ala Ala Trp Tyr Val Leu Met Ala Asp Ile
485 490 495

Tyr Ala Gly Ala Gly Arg Trp Asp Asp Ala Tyr Arg Ile Glu Glu Leu
500 505 510

Arg Lys His Ala Gly Ala Lys Lys Lys Pro Ala Ser Ala Leu Ile Glu
515 520 525

Val Asn Lys Lys Val His Glu Phe Val Val Gly Asn Asn Gln Ser Glu
530 535 540

Glu Ile Ser Ala Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu

545 550 555 560
 Gly His Val Pro Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu
 565 570 575
 Glu Lys Glu Ala Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala
 580 585 590
 Phe Gly Leu Leu Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys
 595 600 605
 Asn Leu Arg Met Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser
 610 615 620
 Lys Ile Glu Arg Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His
 625 630 635 640
 His Phe Lys Asp Gly Leu Cys Ser Cys Gly Asp Met Phe
 645 650

 <210> 41
 <211> 136
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> PG2

 <400> 41
 Gln Pro Gly Cys Ser Ser Ile Glu Val Asp Asn Lys Val His Glu Phe
 1 5 10 15
 Ile Val Gly Asp Arg Ser His Pro Gln Thr Glu Glu Ile Tyr Ala Glu
 20 25 30
 Leu Glu Arg Leu Asn Lys Gln Met Lys Glu Ala Gly Tyr Val Pro Asp
 35 40 45
 Thr Arg Leu Val Leu His Asp Val Asp Glu Glu Glu Lys Glu His Leu
 50 55 60
 Leu Cys His His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser

65		70		75		80									
Thr	Pro	Pro	Gly	Thr	Pro	Leu	Arg	Ile	Ile	Lys	Asn	Leu	Arg	Val	Cys
				85					90					95	
Gly	Asp	Cys	His	Thr	Ala	Thr	Lys	Tyr	Ile	Ser	Lys	Ile	Val	Gly	Arg
			100					105					110		
Glu	Ile	Ile	Val	Arg	Asp	Ala	Asn	Arg	Phe	His	His	Phe	Lys	Asp	Gly
		115					120					125			
Val	Cys	Ser	Cys	Gly	Asp	Tyr	Trp								
	130					135									
<210> 42															
<211> 136															
<212> PRT															
<213> Artificial Sequence															
<220>															
<223> PG3															
<400> 42															
Lys	Pro	Gly	Cys	Ser	Trp	Ile	Glu	Val	Asn	Asn	Lys	Val	His	Glu	Phe
1				5					10					15	
Val	Ala	Gly	Asp	Lys	Ser	His	Pro	Gln	Thr	Lys	Glu	Ile	Tyr	Ala	Glu
			20					25					30		
Leu	Glu	Arg	Leu	Ser	Lys	Gln	Met	Lys	Glu	Ala	Gly	Tyr	Val	Pro	Asp
		35					40					45			
Thr	Lys	Phe	Val	Leu	His	Asp	Val	Glu	Glu	Glu	Glu	Lys	Glu	Gln	Leu
	50					55					60				
Leu	Cys	Tyr	His	Ser	Glu	Lys	Leu	Ala	Ile	Ala	Phe	Gly	Leu	Ile	Ser
65					70				75					80	
Thr	Pro	Pro	Gly	Thr	Pro	Leu	Arg	Ile	Ile	Lys	Asn	Leu	Arg	Val	Cys
				85					90					95	
Gly	Asp	Cys	His	Thr	Ala	Thr	Lys	Phe	Ile	Ser	Lys	Ile	Val	Gly	Arg

100	105	110
Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly		
115	120	125
Val Cys Ser Cys Gly Asp Tyr Trp		
130	135	
<210> 43		
<211> 136		
<212> PRT		
<213> Artificial Sequence		
<220>		
<223> PG4		
<400> 43		
Glu Pro Ala Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe		
1	5	10
Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu		
20	25	30
Leu Glu Arg Leu Ser Lys Gln Met Lys Glu Ala Gly Tyr Val Pro Asp		
35	40	45
Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu		
50	55	60
Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser		
65	70	75
Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys		
85	90	95
Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg		
100	105	110
Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly		
115	120	125
Val Cys Ser Cys Gly Asp Tyr Trp		

130

135

<210> 44
 <211> 136
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PG5

<400> 44

Glu Pro Gly Cys Ala Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
 1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
 20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
 50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
 65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
 85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
 100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
 115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 45
 <211> 136
 <212> PRT
 <213> Artificial Sequence

<220>

<223> PG6

<400> 45

Glu Pro Gly Cys Ser Thr Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 46

<211> 136

<212> PRT

<213> Artificial Sequence

<220>

<223> PG7

<400> 46

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 47
<211> 136
<212> PRT
<213> Artificial Sequence

<220>
<223> PG8

<400> 47

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 48
<211> 136
<212> PRT
<213> Artificial Sequence

<220>
<223> PG9

<400> 48

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
20 25 30

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

Thr Lys Phe Val Leu His Pro Val Glu Glu Glu Glu Lys Glu Gln Leu
50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 49
<211> 136
<212> PRT
<213> Artificial Sequence

<220>
<223> PG10

<400> 49

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Val Thr Lys Asn Leu Arg Val Cys
85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
 115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 50
 <211> 136
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PG11

<400> 50

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
 1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
 20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
 50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
 65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Met Cys
 85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
 100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
 115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 51
<211> 136
<212> PRT
<213> Artificial Sequence

<220>
<223> PG12

<400> 51

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Lys Glu Gln Leu
50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Lys Arg
100 105 110

Glu Ile Val Val Arg Asp Ala Asn Arg Phe His His Phe Lys Asp Gly
115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 52
<211> 136
<212> PRT
<213> Artificial Sequence

<220>
<223> PG13

<400> 52

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu
20 25 30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
100 105 110

Glu Ile Val Val Arg Asp Asp Cys Arg Phe His His Phe Lys Asp Gly
115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 53

<211> 136

<212> PRT

<213> Artificial Sequence

<220>

<223> PG14

<400> 53

Glu Pro Gly Cys Ser Trp Ile Glu Val Asn Asn Lys Val His Glu Phe
1 5 10 15

Val Ala Gly Asp Lys Ser His Pro Gln Thr Lys Glu Ile Tyr Ala Glu

20

25

30

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

Thr Lys Phe Val Leu His Asp Val Glu Glu Glu Glu Lys Glu Gln Leu
 50 55 60

Leu Cys Tyr His Ser Glu Lys Leu Ala Ile Ala Phe Gly Leu Ile Ser
 65 70 75 80

Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile Lys Asn Leu Arg Val Cys
 85 90 95

Gly Asp Cys His Thr Ala Thr Lys Phe Ile Ser Lys Ile Val Gly Arg
 100 105 110

Glu Ile Val Val Arg Asp Ala Asn Cys Val His His Phe Lys Asp Gly
 115 120 125

Val Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 54

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> WW2

<400> 54

Gln Pro Gly Gln Ser Trp Trp Thr Asp Met Gly Gly Val Val His Thr
 1 5 10 15

Phe Val Val Gly Asp Arg Glu His Pro Glu Ser Gln Asp Ile Tyr Ala
 20 25 30

Lys Leu Lys Asp Leu Ile Val Lys Met Lys Lys Glu Gly Tyr Val Pro
 35 40 45

His Leu Asp Ser Val Leu Arg Asp Ile Pro Asp Asp Glu Lys Glu Asp

50

55

60

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Tyr Ala Leu Leu
65 70 75 80

Lys Thr Pro Glu Gly Thr Thr Ile Arg Val Val Lys Asn Leu Arg Val
85 90 95

Cys Glu Asp Cys His Thr Ala Thr Ala Leu Ile Ser Lys Ile Glu Gln
100 105 110

Arg Thr Ile Ile Cys Arg Asp Ala Ser Arg Phe His Val Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 55

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> WW3

<400> 55

Glu Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val

85

90

95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
 100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
 115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 56

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> WW4

<400> 56

Lys Pro Ala Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
 1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
 20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
 35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
 65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
 85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
 100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp

115

120

125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 57

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> WW5

<400> 57

Lys Pro Gly Gln Ala Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 58

<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> WW6

<400> 58

Lys Pro Gly Gln Ser Thr Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 59
<211> 136
<212> PRT
<213> Artificial Sequence

<220>
<223> WW7

<400> 59

Lys Pro Gly Gln Ser Trp Thr Asp Thr Gly Gly Ile Val His Thr Phe
 1 5 10 15

Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala Lys
 20 25 30

Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro His
 35 40 45

Leu Asp Cys Val Leu Trp Asp Ile Ser Asp Asp Glu Lys Glu Asp Ala
 50 55 60

Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile Asn
 65 70 75 80

Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val Cys
 85 90 95

Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly Arg
 100 105 110

Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp Gly
 115 120 125

Lys Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 60
 <211> 137
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> WW8

<400> 60

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
 1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
 20 25 30

Lys Leu Lys Asp Leu Asn Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 61
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> WW9

<400> 61

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly His Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 62
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> WW10

<400> 62

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 63
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> WW11

<400> 63

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Val Thr Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 64
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> WW12

<400> 64

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Met
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 65
<211> 137
<212> PRT

<213> Artificial Sequence

<220>

<223> WW13

<400> 65

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro
35 40 45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Lys
100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg Phe His Asn Tyr Lys Asp
115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 66

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> WW14

<400> 66

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

1	5	10	15
Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala	20	25	30
Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro	35	40	45
His Leu Asp Cys Val Leu Trp Asp Ile Ser Asp Asp Glu Lys Glu Asp	50	55	60
Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile	65	70	75
Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val	85	90	95
Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly	100	105	110
Arg Asn Ile Ile Cys Arg Asp Asp Cys Arg Phe His Asn Tyr Lys Asp	115	120	125
Gly Lys Cys Ser Cys Gly Asp Tyr Trp	130	135	

<210> 67
 <211> 137
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> WW15

<400> 67

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr	1	5	10	15
Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala	20	25	30	
Lys Leu Lys Asp Leu Tyr Val Lys Met Lys Glu Glu Gly Tyr Val Pro				

35

40

45

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

Ala Leu Cys Gly His Ser Glu Lys Leu Ala Ile Ala Cys Ala Leu Ile
 65 70 75 80

Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile Val Lys Asn Leu Arg Val
 85 90 95

Cys Asp Asp Cys His Lys Ala Ile Ala Leu Ile Ser Lys Ile Glu Gly
 100 105 110

Arg Asn Ile Ile Cys Arg Asp Ala Ser Cys Val His Asn Tyr Lys Asp
 115 120 125

Gly Lys Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 68

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> KP2

<400> 68

Lys Pro Ala Val Ala Gly Ile Glu Val Asp Arg His Val His Thr Phe
 1 5 10 15

Val Val Gly Glu Glu Arg Gly Asp Ile Ser Cys Lys Val Arg Ser Met
 20 25 30

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

Val Leu Lys Pro Leu Ser Glu Lys Glu Lys Glu Asp Glu Leu Cys Gly
 50 55 60

His Ala Glu Lys Leu Ala Leu Ala Tyr Gly Leu Leu Asn Thr Pro Asp

65		70		75		80									
Gly	Thr	Pro	Leu	Leu	Val	Thr	Lys	Asn	Leu	Arg	Met	Cys	Arg	Asp	Cys
			85						90					95	
His	Ser	Ser	Thr	Glu	Ile	Met	Ser	Arg	Ile	Glu	Lys	Arg	Glu	Ile	Val
			100					105					110		
Val	Arg	Asp	Ala	His	Arg	Val	His	Arg	Phe	Val	Asp	Gly	Ser	Cys	Ser
		115						120				125			
Cys	Gly	Gly	Arg	Pro											
	130														
<210> 69															
<211> 133															
<212> PRT															
<213> Artificial Sequence															
<220>															
<223> KP3															
<400> 69															
Lys	Pro	Ala	Val	Ala	Thr	Ile	Glu	Val	Asn	Lys	Gln	Val	His	Arg	Phe
1				5					10					15	
Leu	Val	Gly	Glu	Arg	Arg	Glu	Asp	Ile	Ala	Leu	Lys	Val	Glu	Ser	Thr
			20					25					30		
Asn	Ala	Arg	Leu	Lys	Gln	Glu	Gly	Gly	His	Val	Pro	His	Thr	Lys	Leu
		35						40				45			
Val	Leu	Lys	Pro	Leu	Cys	Glu	Lys	Glu	Lys	Glu	Asp	Ala	Leu	Cys	Gly
	50					55					60				
His	Ala	Glu	Lys	Leu	Ala	Leu	Ala	Phe	Gly	Leu	Leu	Asn	Thr	Pro	Ser
65					70				75					80	
Gly	Thr	Pro	Leu	Val	Val	Thr	Lys	Asn	Leu	Arg	Met	Cys	Ser	Asp	Cys
			85						90					95	
His	Ser	Ser	Thr	Glu	Ile	Met	Ser	Arg	Leu	Glu	Gln	Arg	Asp	Ile	Val

100

105

110

Val Arg Asp Gly Tyr Arg Val His Arg Phe Ala Ala Gly Cys Cys Ser
 115 120 125

Cys Lys Gly Arg Pro
 130

<210> 70

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> KP4

<400> 70

Lys Pro Ala Val Ala Thr Ile Glu Val Asn Lys Gln Val His Arg Phe
 1 5 10 15

Leu Val Gly Glu Arg Arg Glu Asp Ile Ala Leu Lys Val Glu Ser Thr
 20 25 30

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

Val Leu Lys Pro Leu Cys Glu Lys Glu Lys Glu Asp Val Leu Cys Gly
 50 55 60

His Ala Glu Lys Leu Ala Leu Ala Phe Gly Leu Leu Asn Thr Pro Ser
 65 70 75 80

Gly Thr Pro Leu Val Val Thr Lys Asn Leu Arg Met Cys Ser Asp Cys
 85 90 95

His Ser Ser Thr Glu Ile Met Ser Arg Leu Glu Gln Arg Asp Ile Val
 100 105 110

Val Arg Asp Gly Tyr Arg Val His Arg Phe Ala Asn Gly Cys Cys Ser
 115 120 125

Cys Lys Gly Arg Pro

130

<210> 71
<211> 133
<212> PRT
<213> Artificial Sequence

<220>
<223> KP5

<400> 71

Lys Pro Gly Ser Ala Leu Ile Glu Val Asn Lys Lys Val His Glu Phe
1 5 10 15

Val Val Gly Asn Asn Gln Ser Glu Glu Ile Ser Ala Met Leu Lys Ser
20 25 30

Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro Asn Leu Asp Leu
35 40 45

Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala Leu Cys Glu
50 55 60

His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn Thr Pro Gln
65 70 75 80

Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys Asn Asp Cys
85 90 95

His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg Arg Glu Ile Ile
100 105 110

Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp Gly Leu Cys Ser
115 120 125

Cys Gly Asp Met Phe
130

<210> 72
<211> 137
<212> PRT
<213> Artificial Sequence

<220>

<223> KP6

<400> 72

Lys Pro Ala Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 73

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> KP7

<400> 73

Lys Pro Ala Ser Ser Leu Ile Glu Val Asn Lys Lys Val His Glu Phe
1 5 10 15

Val Val Gly Asn Asn Gln Ser Glu Glu Ile Ser Ala Met Leu Lys Ser
20 25 30

Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro Asn Leu Asp Leu
35 40 45

Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala Leu Cys Glu
50 55 60

His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn Thr Pro Gln
65 70 75 80

Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys Asn Asp Cys
85 90 95

His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg Arg Glu Ile Ile
100 105 110

Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp Gly Leu Cys Ser
115 120 125

Cys Gly Asp Met Phe
130

<210> 74
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> KP8

<400> 74

Lys Pro Gly Gln Ala Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 75
<211> 133
<212> PRT
<213> Artificial Sequence

<220>
<223> KP9

<400> 75

Lys Pro Ala Ser Ala Trp Ile Glu Val Asn Lys Lys Val His Glu Phe
1 5 10 15

Val Val Gly Asn Asn Gln Ser Glu Glu Ile Ser Ala Met Leu Lys Ser
20 25 30

Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro Asn Leu Asp Leu
35 40 45

Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala Leu Cys Glu
50 55 60

His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn Thr Pro Gln
65 70 75 80

Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys Asn Asp Cys
85 90 95

His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg Arg Glu Ile Ile
100 105 110

Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp Gly Leu Cys Ser
115 120 125

Cys Gly Asp Met Phe
130

<210> 76
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> KP10

<400> 76

Lys Pro Gly Gln Ser Thr Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 77
<211> 136
<212> PRT
<213> Artificial Sequence

<220>
<223> KP11

<400> 77

Lys Pro Gly Gln Ser Trp Thr Asp Thr Gly Gly Ile Val His Thr Phe
1 5 10 15

Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala Met
20 25 30

Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro Asn
35 40 45

Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala
50 55 60

Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn
65 70 75 80

Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys
85 90 95

Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg Arg
100 105 110

Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp Gly
115 120 125

Leu Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 78
 <211> 137
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> KP12

<400> 78

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
 1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
 20 25 30

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

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
 50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
 65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
 85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
 100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
 115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 79
 <211> 133
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> KP13

<400> 79

Lys Pro Ala Ser Ala Leu Ile Glu Val Asn Lys Lys Val His Glu Phe
1 5 10 15

Val Val Gly Asn Asn Gln Ser Glu Glu Ile Ser Ala Met Leu Lys Ser
20 25 30

Leu Asn Ser Arg Met Lys Glu Glu Gly Tyr Val Pro Asn Leu Asp Leu
35 40 45

Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala Leu Cys Glu
50 55 60

His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn Thr Pro Gln
65 70 75 80

Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys Asn Asp Cys
85 90 95

His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg Arg Glu Ile Ile
100 105 110

Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp Gly Leu Cys Ser
115 120 125

Cys Gly Asp Met Phe
130

<210> 80

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> KP14

<400> 80

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala

20

25

30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly Tyr Val Pro
 35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
 50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
 65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
 85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
 100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
 115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 81

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> KP15

<400> 81

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
 1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
 20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
 35 40 45

Asn Leu Asp Leu Val Leu Lys Asp Val Ser Asp Glu Glu Lys Glu Ala

50

55

60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 82

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> KP16

<400> 82

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Ile Val Lys Asn Leu Arg Met

85

90

95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
 100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
 115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 83

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> KP17

<400> 83

Lys Pro Ala Ser Ala Leu Ile Glu Val Asn Lys Lys Val His Glu Phe
 1 5 10 15

Val Val Gly Asn Asn Gln Ser Glu Glu Ile Ser Ala Met Leu Lys Ser
 20 25 30

Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro Asn Leu Asp Leu
 35 40 45

Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala Leu Cys Glu
 50 55 60

His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn Thr Pro Gln
 65 70 75 80

Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys Asn Asp Cys
 85 90 95

His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Gly Arg Glu Ile Ile
 100 105 110

Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp Gly Leu Cys Ser

115

120

125

Cys Gly Asp Met Phe
130

<210> 84

<211> 137

<212> PRT

<213> Artificial Sequence

<220>

<223> KP18

<400> 84

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Gly
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 85

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

<220>
<223> KP19

<400> 85

Lys Pro Ala Ser Ala Leu Ile Glu Val Asn Lys Lys Val His Glu Phe
1 5 10 15

Val Val Gly Asn Asn Gln Ser Glu Glu Ile Ser Ala Met Leu Lys Ser
20 25 30

Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro Asn Leu Asp Leu
35 40 45

Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala Ala Leu Cys Glu
50 55 60

His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu Asn Thr Pro Gln
65 70 75 80

Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met Cys Asn Asp Cys
85 90 95

His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg Arg Glu Ile Ile
100 105 110

Leu Arg Asp Ala Ser Cys Ile His His Phe Lys Asp Gly Leu Cys Ser
115 120 125

Cys Gly Asp Met Phe
130

<210> 86
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> KP20

<400> 86

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
 1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
 20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
 35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
 50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
 65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
 85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
 100 105 110

Arg Glu Ile Ile Leu Arg Asp Ala Ser Cys Ile His His Phe Lys Asp
 115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 87
 <211> 137
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> KP21

<400> 87

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
 1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
 20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Met Phe
130 135

<210> 88
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> KP22

<400> 88

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Met Phe
130 135

<210> 89
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> KP23

<400> 89

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Gln Asp Ile Tyr Ala
20 25 30

Lys Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
130 135

<210> 90
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> Chimeric KP1a

<400> 90

Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr Gly Gly Ile Val His Thr
1 5 10 15

Phe Val Val Gly Asp Thr Lys His Pro Gln Ser Glu Glu Ile Ser Ala
20 25 30

Met Leu Lys Ser Leu Asn Ser Arg Met Lys Glu Glu Gly His Val Pro
35 40 45

Asn Leu Asp Leu Val Leu Lys Pro Val Ser Asp Glu Glu Lys Glu Ala
50 55 60

Ala Leu Cys Glu His Ala Glu Lys Leu Ala Ile Ala Phe Gly Leu Leu
65 70 75 80

Asn Thr Pro Gln Gly Gln Thr Leu Arg Val Thr Lys Asn Leu Arg Met
85 90 95

Cys Asn Asp Cys His Asn Ala Ser Lys Ile Ile Ser Lys Ile Glu Arg
100 105 110

Arg Glu Ile Ile Leu Arg Asp Asp Cys Cys Ile His His Phe Lys Asp
115 120 125

Gly Leu Cys Ser Cys Gly Asp Tyr Trp
 130 135

<210> 91
 <211> 22
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> ND2

<400> 91
 cccagcuacg caaaaucuua gc 22

<210> 92
 <211> 22
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> ND5

<400> 92
 augacaucaa aaaaaucgua gc 22

<210> 93
 <211> 830
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> MTS-P-PG1_ND2

<400> 93

Met Ala Leu Leu Arg Ala Ala Val Ser Glu Leu Arg Arg Arg Gly Arg
 1 5 10 15

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

Ser Pro Arg Ser Pro Ala Ser Thr Arg Pro Glu Pro Asn Asn Pro His
 35 40 45

Ala Asp Arg Arg His Val Ile Ala Leu Arg Arg Cys Pro Pro Leu Pro
 50 55 60

Ala Ser Ala Val Leu Ala Pro Glu Leu Leu His Ala Arg Gly Leu Leu
65 70 75 80

Pro Arg His Trp Ser His Ala Ser Pro Leu Ser Thr Ser Ser Ser Ser
85 90 95

Ser Arg Pro Ala Asp Lys Ala Gln Leu Thr Trp Val Asp Lys Trp Ile
100 105 110

Pro Glu Ala Ala Arg Pro Tyr Ser His Gly Ser Gly Gly Ser Gly Gly
115 120 125

Gly Leu His Met Gly Ser Gly Gly Leu Ser Ser Gly Asp Tyr Lys Asp
130 135 140

His Asp Gly Asp Tyr Lys Asp His Asp Ile Asp Tyr Lys Asp Asp Asp
145 150 155 160

Asp Lys Gly Ser Gly Gly Ser Gly Gly Ser Gly Asn Ser Val Val Thr
165 170 175

Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser Gly Lys Ile Glu Glu
180 185 190

Ala Leu Lys Leu Phe Lys Glu Met Glu Glu Lys Gly Ile Thr Pro Ser
195 200 205

Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser Gly Lys
210 215 220

Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met Glu Glu Lys Gly Ile
225 230 235 240

Thr Pro Ser Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys
245 250 255

Ser Gly Lys Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met Glu Glu
260 265 270

Lys Gly Ile Thr Pro Ser Val Val Thr Tyr Thr Thr Leu Ile Asp Gly

275	280	285
Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Lys Glu 290 295 300		
Met Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Tyr Thr Thr Leu 305 310 315 320		
Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu 325 330 335		
Phe Asp Glu Met Lys Glu Arg Gly Ile Lys Pro Asp Val Val Thr Tyr 340 345 350		
Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser Gly Lys Ile Glu Glu Ala 355 360 365		
Leu Lys Leu Phe Lys Glu Met Glu Glu Lys Gly Ile Thr Pro Ser Val 370 375 380		
Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Arg Leu 385 390 395 400		
Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu Lys Gly Ile Lys 405 410 415		
Pro Asp Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala 420 425 430		
Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys 435 440 445		
Gly Val Lys Pro Asn Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu 450 455 460		
Cys Lys Ser Gly Lys Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met 465 470 475 480		
Glu Glu Lys Gly Ile Thr Pro Ser Val Val Thr Tyr Thr Thr Leu Ile 485 490 495		

Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe
500 505 510

Asp Glu Met Lys Glu Arg Gly Ile Lys Pro Asp Val Val Ser Trp Asn
515 520 525

Ala Met Ile Ala Ala Tyr Ala Gln His Gly His Gly Lys Glu Ala Leu
530 535 540

Gln Leu Phe Gln Gln Met Gln Gln Glu Gly Val Lys Pro Ser Glu Val
545 550 555 560

Thr Phe Thr Ser Ile Leu Ser Ala Cys Ser His Ala Gly Leu Val Asp
565 570 575

Glu Gly His His Tyr Phe Glu Ser Met Ser Pro Asp Tyr Gly Ile Thr
580 585 590

Pro Arg Val Glu His Tyr Gly Cys Met Val Asp Leu Leu Gly Arg Ala
595 600 605

Gly Arg Leu Asp Glu Ala Glu Asp Leu Ile Lys Ser Met Pro Phe Gln
610 615 620

Pro Asn Val Val Val Trp Gly Thr Leu Leu Gly Ala Cys Arg Val His
625 630 635 640

Gly Asp Val Glu Arg Gly Glu Arg Ala Ala Glu Arg Ile Leu Glu Leu
645 650 655

Asp Pro Glu Ser Ala Ala Pro Tyr Val Leu Leu Ser Asn Ile Tyr Ala
660 665 670

Ala Ala Gly Arg Trp Asp Glu Ala Ala Lys Val Arg Lys Leu Met Lys
675 680 685

Glu Arg Gly Val Lys Lys Glu Pro Gly Cys Ser Trp Ile Glu Val Asn
690 695 700

Asn Lys Val His Glu Phe Val Ala Gly Asp Lys Ser His Pro Gln Thr

705 710 715 720
 Lys Glu Ile Tyr Ala Glu Leu Glu Arg Leu Ser Lys Gln Met Lys Glu
 725 730 735
 Ala Gly Tyr Val Pro Asp Thr Lys Phe Val Leu His Asp Val Glu Glu
 740 745 750
 Glu Glu Lys Glu Gln Leu Leu Cys Tyr His Ser Glu Lys Leu Ala Ile
 755 760 765
 Ala Phe Gly Leu Ile Ser Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile
 770 775 780
 Lys Asn Leu Arg Val Cys Gly Asp Cys His Thr Ala Thr Lys Phe Ile
 785 790 795 800
 Ser Lys Ile Val Gly Arg Glu Ile Val Val Arg Asp Ala Asn Arg Phe
 805 810 815
 His His Phe Lys Asp Gly Val Cys Ser Cys Gly Asp Tyr Trp
 820 825 830

 <210> 94
 <211> 831
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> MTS-P-WW1_ND2

 <400> 94

 Met Ala Leu Leu Arg Ala Ala Val Ser Glu Leu Arg Arg Arg Gly Arg
 1 5 10 15

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

 Ser Pro Arg Ser Pro Ala Ser Thr Arg Pro Glu Pro Asn Asn Pro His
 35 40 45

 Ala Asp Arg Arg His Val Ile Ala Leu Arg Arg Cys Pro Pro Leu Pro

60

Ser Gly Lys Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met Glu Glu
260 265 270

Lys Gly Ile Thr Pro Ser Val Val Thr Tyr Thr Thr Leu Ile Asp Gly
275 280 285

Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Lys Glu
290 295 300

Met Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Tyr Thr Thr Leu
305 310 315 320

Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu
325 330 335

Phe Asp Glu Met Lys Glu Arg Gly Ile Lys Pro Asp Val Val Thr Tyr
340 345 350

Asn Thr Leu Ile Asp Gly Leu Cys Lys Ser Gly Lys Ile Glu Glu Ala
355 360 365

Leu Lys Leu Phe Lys Glu Met Glu Glu Lys Gly Ile Thr Pro Ser Val
370 375 380

Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Arg Leu
385 390 395 400

Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu Lys Gly Ile Lys
405 410 415

Pro Asp Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala
420 425 430

Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys
435 440 445

Gly Val Lys Pro Asn Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu
450 455 460

Cys Lys Ser Gly Lys Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met
465 470 475 480

Glu Glu Lys Gly Ile Thr Pro Ser Val Val Thr Tyr Thr Thr Leu Ile

485					490					495					
Asp	Gly	Leu	Cys	Lys	Ala	Gly	Lys	Val	Asp	Glu	Ala	Leu	Glu	Leu	Phe
			500					505					510		
Asp	Glu	Met	Lys	Glu	Arg	Gly	Ile	Lys	Pro	Asp	Val	Val	Thr	Trp	Asn
		515					520					525			
Ala	Leu	Ile	Ala	Gly	Tyr	Ala	Arg	Gln	Gly	Glu	Ser	Asp	Leu	Val	Phe
	530					535					540				
His	Leu	Leu	Glu	Arg	Met	Arg	Gln	Glu	Gly	Ile	Gln	Pro	Ser	Gly	Val
545					550					555					560
Thr	Phe	Thr	Ser	Val	Leu	Thr	Val	Cys	Ser	His	Ala	Gly	Leu	Val	Asp
				565					570					575	
Glu	Gly	Gln	Lys	Tyr	Phe	Asp	Ala	Met	Ser	Glu	Asp	Tyr	Gly	Ile	Thr
			580					585					590		
Pro	Arg	Ile	Glu	His	Tyr	Gly	Cys	Met	Val	Asp	Leu	Leu	Gly	Arg	Ala
		595					600					605			
Gly	Gln	Met	Asp	Glu	Ala	Val	Ala	Met	Val	Glu	Lys	Met	Pro	Phe	Gln
	610					615					620				
Pro	Asn	Leu	Val	Thr	Trp	Gly	Thr	Leu	Leu	Gly	Ala	Cys	Arg	Lys	Trp
625					630					635					640
Asn	Asn	Val	Glu	Ile	Gly	Arg	His	Ala	Phe	Glu	Cys	Ala	Val	Arg	Leu
				645					650					655	
Asp	Glu	Lys	Ser	Ala	Ala	Ala	Tyr	Val	Leu	Met	Ser	Asn	Ile	Tyr	Ala
			660					665					670		
Asp	Ala	His	Met	Trp	Glu	Glu	Arg	Asp	Lys	Ile	Gln	Ala	Met	Arg	Lys
	675						680					685			
Asn	Ala	Arg	Ala	Trp	Lys	Lys	Pro	Gly	Gln	Ser	Trp	Trp	Thr	Asp	Thr
	690					695					700				

Gly Gly Ile Val His Thr Phe Val Val Gly Asp Thr Lys His Pro Gln
705 710 715 720

Ser Gln Asp Ile Tyr Ala Lys Leu Lys Asp Leu Tyr Val Lys Met Lys
725 730 735

Glu Glu Gly Tyr Val Pro His Leu Asp Cys Val Leu Trp Asp Ile Ser
740 745 750

Asp Asp Glu Lys Glu Asp Ala Leu Cys Gly His Ser Glu Lys Leu Ala
755 760 765

Ile Ala Cys Ala Leu Ile Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile
770 775 780

Val Lys Asn Leu Arg Val Cys Asp Asp Cys His Lys Ala Ile Ala Leu
785 790 795 800

Ile Ser Lys Ile Glu Gly Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg
805 810 815

Phe His Asn Tyr Lys Asp Gly Lys Cys Ser Cys Gly Asp Tyr Trp
820 825 830

<210> 95
<211> 830
<212> PRT
<213> Artificial Sequence

<220>
<223> MTS-P-PG1_ND5

<400> 95

Met Ala Leu Leu Arg Ala Ala Val Ser Glu Leu Arg Arg Arg Gly Arg
1 5 10 15

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

Ser Pro Arg Ser Pro Ala Ser Thr Arg Pro Glu Pro Asn Asn Pro His
35 40 45

Ala Asp Arg Arg His Val Ile Ala Leu Arg Arg Cys Pro Pro Leu Pro
50 55 60

Ala Ser Ala Val Leu Ala Pro Glu Leu Leu His Ala Arg Gly Leu Leu
65 70 75 80

Pro Arg His Trp Ser His Ala Ser Pro Leu Ser Thr Ser Ser Ser Ser
85 90 95

Ser Arg Pro Ala Asp Lys Ala Gln Leu Thr Trp Val Asp Lys Trp Ile
100 105 110

Pro Glu Ala Ala Arg Pro Tyr Ser His Gly Ser Gly Gly Ser Gly Gly
115 120 125

Gly Leu His Met Gly Ser Gly Gly Leu Ser Ser Gly Asp Tyr Lys Asp
130 135 140

His Asp Gly Asp Tyr Lys Asp His Asp Ile Asp Tyr Lys Asp Asp Asp
145 150 155 160

Asp Lys Gly Ser Gly Gly Ser Gly Gly Ser Gly Asn Ser Val Val Thr
165 170 175

Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu
180 185 190

Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val Lys Pro Asn
195 200 205

Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Arg
210 215 220

Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu Lys Gly Ile
225 230 235 240

Lys Pro Asp Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys
245 250 255

Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Asp Glu Met Lys Glu

260	265	270
Arg Gly Ile Lys Pro Asp Val	Val Thr Tyr Thr Thr	Leu Ile Asp Gly
275	280	285
Leu Cys Lys Ala Gly Lys Val	Asp Glu Ala Leu Glu	Leu Phe Lys Glu
290	295	300
Met Arg Ser Lys Gly Val Lys	Pro Asn Val Val Thr Tyr Asn Thr	Leu
305	310	315
Ile Asp Gly Leu Cys Lys Ser	Gly Lys Ile Glu Glu Ala Leu Lys	Leu
325	330	335
Phe Lys Glu Met Glu Glu Lys	Gly Ile Thr Pro Ser Val Val Thr Tyr	
340	345	350
Thr Thr Leu Ile Asp Gly Leu	Cys Lys Ala Gly Lys Val Asp Glu Ala	
355	360	365
Leu Glu Leu Phe Lys Glu Met	Arg Ser Lys Gly Val Lys Pro Asn Val	
370	375	380
Val Thr Tyr Asn Thr Leu Ile	Asp Gly Leu Cys Lys Ala Gly Arg Leu	
385	390	395
Asp Glu Ala Glu Glu Leu Leu	Glu Glu Met Glu Glu Lys Gly Ile Lys	
405	410	415
Pro Asp Val Val Thr Tyr Asn	Thr Leu Ile Asp Gly Leu Cys Lys Ser	
420	425	430
Gly Lys Ile Glu Glu Ala Leu	Lys Leu Phe Lys Glu Met Glu Glu Lys	
435	440	445
Gly Ile Thr Pro Ser Val Val	Thr Tyr Thr Thr Leu Ile Asp Gly Leu	
450	455	460
Cys Lys Ala Gly Lys Val Asp	Glu Ala Leu Glu Leu Phe Lys Glu Met	
465	470	475
		480

Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Tyr Thr Thr Leu Ile
485 490 495

Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe
500 505 510

Lys Glu Met Arg Ser Lys Gly Val Lys Pro Asn Val Val Ser Trp Thr
515 520 525

Ala Met Ile Ala Ala Tyr Ala Gln His Gly His Gly Lys Glu Ala Leu
530 535 540

Gln Leu Phe Gln Gln Met Gln Gln Glu Gly Val Lys Pro Asn Glu Val
545 550 555 560

Thr Phe Thr Ser Ile Leu Ser Ala Cys Ser His Ala Gly Leu Val Asp
565 570 575

Glu Gly His His Tyr Phe Glu Ser Met Ser Pro Asp Tyr Gly Ile Thr
580 585 590

Pro Arg Val Glu His Tyr Gly Cys Met Val Asp Leu Leu Gly Arg Ala
595 600 605

Gly Arg Leu Asp Glu Ala Glu Asp Leu Ile Lys Ser Met Pro Phe Gln
610 615 620

Pro Asn Val Val Val Trp Gly Thr Leu Leu Gly Ala Cys Arg Val His
625 630 635 640

Gly Asp Val Glu Arg Gly Glu Arg Ala Ala Glu Arg Ile Leu Glu Leu
645 650 655

Asp Pro Glu Ser Ala Ala Pro Tyr Val Leu Leu Ser Asn Ile Tyr Ala
660 665 670

Ala Ala Gly Arg Trp Asp Glu Ala Ala Lys Val Arg Lys Leu Met Lys
675 680 685

Glu Arg Gly Val Lys Lys Glu Pro Gly Cys Ser Trp Ile Glu Val Asn

690

695

700

Asn Lys Val His Glu Phe Val Ala Gly Asp Lys Ser His Pro Gln Thr
 705 710 715 720

Lys Glu Ile Tyr Ala Glu Leu Glu Arg Leu Ser Lys Gln Met Lys Glu
 725 730 735

Ala Gly Tyr Val Pro Asp Thr Lys Phe Val Leu His Asp Val Glu Glu
 740 745 750

Glu Glu Lys Glu Gln Leu Leu Cys Tyr His Ser Glu Lys Leu Ala Ile
 755 760 765

Ala Phe Gly Leu Ile Ser Thr Pro Pro Gly Thr Pro Leu Arg Ile Ile
 770 775 780

Lys Asn Leu Arg Val Cys Gly Asp Cys His Thr Ala Thr Lys Phe Ile
 785 790 795 800

Ser Lys Ile Val Gly Arg Glu Ile Val Val Arg Asp Ala Asn Arg Phe
 805 810 815

His His Phe Lys Asp Gly Val Cys Ser Cys Gly Asp Tyr Trp
 820 825 830

<210> 96

<211> 831

<212> PRT

<213> Artificial Sequence

<220>

<223> MTS-P-WW1_ND5

<400> 96

Met Ala Leu Leu Arg Ala Ala Val Ser Glu Leu Arg Arg Arg Gly Arg
 1 5 10 15

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

Ser Pro Arg Ser Pro Ala Ser Thr Arg Pro Glu Pro Asn Asn Pro His

35

40

45

Ala Asp Arg Arg His Val Ile Ala Leu Arg Arg Cys Pro Pro Leu Pro
 50 55 60

Ala Ser Ala Val Leu Ala Pro Glu Leu Leu His Ala Arg Gly Leu Leu
 65 70 75 80

Pro Arg His Trp Ser His Ala Ser Pro Leu Ser Thr Ser Ser Ser Ser
 85 90 95

Ser Arg Pro Ala Asp Lys Ala Gln Leu Thr Trp Val Asp Lys Trp Ile
 100 105 110

Pro Glu Ala Ala Arg Pro Tyr Ser His Gly Ser Gly Gly Ser Gly Gly
 115 120 125

Gly Leu His Met Gly Ser Gly Gly Leu Ser Ser Gly Asp Tyr Lys Asp
 130 135 140

His Asp Gly Asp Tyr Lys Asp His Asp Ile Asp Tyr Lys Asp Asp Asp
 145 150 155 160

Asp Lys Gly Ser Gly Gly Ser Gly Gly Ser Gly Asn Ser Val Val Thr
 165 170 175

Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu
 180 185 190

Ala Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val Lys Pro Asn
 195 200 205

Val Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Arg
 210 215 220

Leu Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu Lys Gly Ile
 225 230 235 240

Lys Pro Asp Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu Cys Lys
 245 250 255

Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Asp Glu Met Lys Glu
260 265 270

Arg Gly Ile Lys Pro Asp Val Val Thr Tyr Thr Thr Leu Ile Asp Gly
275 280 285

Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Lys Glu
290 295 300

Met Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Tyr Asn Thr Leu
305 310 315 320

Ile Asp Gly Leu Cys Lys Ser Gly Lys Ile Glu Glu Ala Leu Lys Leu
325 330 335

Phe Lys Glu Met Glu Glu Lys Gly Ile Thr Pro Ser Val Val Thr Tyr
340 345 350

Thr Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala
355 360 365

Leu Glu Leu Phe Lys Glu Met Arg Ser Lys Gly Val Lys Pro Asn Val
370 375 380

Val Thr Tyr Asn Thr Leu Ile Asp Gly Leu Cys Lys Ala Gly Arg Leu
385 390 395 400

Asp Glu Ala Glu Glu Leu Leu Glu Glu Met Glu Glu Lys Gly Ile Lys
405 410 415

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

Gly Lys Ile Glu Glu Ala Leu Lys Leu Phe Lys Glu Met Glu Glu Lys
435 440 445

Gly Ile Thr Pro Ser Val Val Thr Tyr Thr Thr Leu Ile Asp Gly Leu
450 455 460

Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe Lys Glu Met

465		470		475		480
Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Tyr Thr Thr Leu Ile						
		485		490		495
Asp Gly Leu Cys Lys Ala Gly Lys Val Asp Glu Ala Leu Glu Leu Phe						
		500		505		510
Lys Glu Met Arg Ser Lys Gly Val Lys Pro Asn Val Val Thr Trp Thr						
		515		520		525
Ala Leu Ile Ala Gly Tyr Ala Arg Gln Gly Glu Ser Asp Leu Val Phe						
		530		535		540
His Leu Leu Glu Arg Met Arg Gln Glu Gly Ile Gln Pro Asn Gly Val						
545		550		555		560
Thr Phe Thr Ser Val Leu Thr Val Cys Ser His Ala Gly Leu Val Asp						
		565		570		575
Glu Gly Gln Lys Tyr Phe Asp Ala Met Ser Glu Asp Tyr Gly Ile Thr						
		580		585		590
Pro Arg Ile Glu His Tyr Gly Cys Met Val Asp Leu Leu Gly Arg Ala						
		595		600		605
Gly Gln Met Asp Glu Ala Val Ala Met Val Glu Lys Met Pro Phe Gln						
		610		615		620
Pro Asn Leu Val Thr Trp Gly Thr Leu Leu Gly Ala Cys Arg Lys Trp						
625		630		635		640
Asn Asn Val Glu Ile Gly Arg His Ala Phe Glu Cys Ala Val Arg Leu						
		645		650		655
Asp Glu Lys Ser Ala Ala Ala Tyr Val Leu Met Ser Asn Ile Tyr Ala						
		660		665		670
Asp Ala His Met Trp Glu Glu Arg Asp Lys Ile Gln Ala Met Arg Lys						
		675		680		685

Asn Ala Arg Ala Trp Lys Lys Pro Gly Gln Ser Trp Trp Thr Asp Thr
690 695 700

Gly Gly Ile Val His Thr Phe Val Val Gly Asp Thr Lys His Pro Gln
705 710 715 720

Ser Gln Asp Ile Tyr Ala Lys Leu Lys Asp Leu Tyr Val Lys Met Lys
725 730 735

Glu Glu Gly Tyr Val Pro His Leu Asp Cys Val Leu Trp Asp Ile Ser
740 745 750

Asp Asp Glu Lys Glu Asp Ala Leu Cys Gly His Ser Glu Lys Leu Ala
755 760 765

Ile Ala Cys Ala Leu Ile Asn Thr Pro Pro Gly Thr Pro Ile Arg Ile
770 775 780

Val Lys Asn Leu Arg Val Cys Asp Asp Cys His Lys Ala Ile Ala Leu
785 790 795 800

Ile Ser Lys Ile Glu Gly Arg Asn Ile Ile Cys Arg Asp Ala Ser Arg
805 810 815

Phe His Asn Tyr Lys Asp Gly Lys Cys Ser Cys Gly Asp Tyr Trp
820 825 830