

1
SEQUENCE LISTING

<110> REGENERON PHARMACEUTICALS, INC.

<120> ANTI-VEGF PROTEIN COMPOSITIONS AND METHODS FOR PRODUCING THE SAME

<130> 070816-02433

<140> 17/492,440

<141> 2021-10-01

<150> 17/205,745

<151> 2021-03-18

<150> 11,180,540

<151> 2020-08-18

<150> 63/065,012

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<150> 62/944,635

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<160> 124

<170> PatentIn version 3.5

<210> 1

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 1

Met	Arg	Lys	Arg	Cys	Tyr	Ser	Thr	Ser	Ala	Ala	Val	Leu	Ala	Ala	Val
1				5					10					15	

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

Ser	Ala	Asn	Gln	Glu	Ile	Arg	Tyr	Ser	Glu	Val	Thr	Pro	Tyr	His	Val
		35					40					45			

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro² Ala Asn Phe Thr Gln
 50 55 60

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
 65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
 100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
 115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
 130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
 145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
 180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
 195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
 210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
 225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

3

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
325 330 335

Gln Thr Asn

<210> 2

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 2

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 4

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

5

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
325 330 335

Gln Thr Asn

<210> 3

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 3

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

7

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
325 330 335

Gln Thr Asn

<210> 4

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 4

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
35 40 45

8
Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335

Gln Thr Asn

<210> 5

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 5

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
 1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
 35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 10

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

11

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
325 330 335

Gln Thr Asn

<210> 6

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 6

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 12

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

13

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
325 330 335

Gln Thr Asn

<210> 7

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 7

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 14

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245 15 255
 250
 Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270
 Ser Asn Gly Asn Leu Lys Ala Ile Tyr Val Thr Asp Ser Asp Ser Asn
 275 280 285
 Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300
 Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320
 Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335
 Gln Thr Asn

<210> 8

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 8

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
 1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
 35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 16

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

17

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
325 330 335

Gln Thr Asn

<210> 9

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 9

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 18

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

19

245

250

255

Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
260 265 270

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

Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
290 295 300

Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
305 310 315 320

Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
325 330 335

Gln Thr Asn

<210> 10

<211> 339

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 10

Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 20

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245 21 255
 250
 Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270
 Ser Asp Gly Asn Leu Lys Ala Ile Tyr Val Thr Asp Ser Asp Ser Asn
 275 280 285
 Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300
 Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320
 Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335
 Gln Thr Asn

<210> 11
 <211> 339
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 11
 Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
 1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
 35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 22

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245 250 23 255
 Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270
 Ser Asp Gly Asn Leu Lys Ala Ile Tyr Val Thr Asp Ser Asp Ser Asn
 275 280 285
 Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300
 Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320
 Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335

Gln Thr Asn

<210> 12
 <211> 339
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 12
 Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
 1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
 35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 24

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245 250 25 255
 Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270
 Ser Asn Gly Asn Leu Lys Ala Ile Tyr Val Thr Asp Ser Asp Ser Asn
 275 280 285
 Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300
 Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320
 Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335
 Gln Thr Asn

<210> 13
 <211> 339
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 13
 Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
 1 5 10 15
 Thr Leu Phe Val Leu Ser Val Asp Arg Gly Val Ile Ala Asp Ser Phe
 20 25 30
 Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
 35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 26

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Asn Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 28

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Asn Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245 250 255
 29
 Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270
 Ser Asp Gly Asn Leu Lys Ala Ile Tyr Val Thr Asp Ser Asp Ser Asn
 275 280 285
 Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300
 Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320
 Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335

Gln Thr Asn

<210> 15
 <211> 339
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 15
 Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
 1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
 35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 30

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

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

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245 31 255
 250
 Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270
 Ser Asp Gly Asn Leu Lys Ala Ile Tyr Val Thr Asp Ser Asp Ser Asn
 275 280 285
 Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300
 Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320
 Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335

Gln Thr Asn

<210> 16
 <211> 339
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 16
 Met Arg Lys Arg Cys Tyr Ser Thr Ser Ala Ala Val Leu Ala Ala Val
 1 5 10 15

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

Ser Ala Asn Gln Glu Ile Arg Tyr Ser Glu Val Thr Pro Tyr His Val
 35 40 45

Thr Ser Val Trp Thr Lys Gly Val Thr Pro Pro Ala Asn Phe Thr Gln
50 55 60 32

Gly Glu Asp Val Phe His Ala Pro Tyr Val Ala Asn Gln Gly Trp Tyr
65 70 75 80

Asp Ile Thr Lys Thr Phe Asp Gly Lys Asp Asp Leu Leu Cys Gly Ala
85 90 95

Ala Thr Ala Gly Asn Met Leu His Trp Trp Phe Asp Gln Asn Lys Asp
100 105 110

Gln Ile Lys Arg Tyr Leu Glu Glu His Pro Glu Lys Gln Lys Ile Asn
115 120 125

Phe Arg Gly Glu Gln Met Phe Asp Val Lys Glu Ala Ile Asp Thr Lys
130 135 140

Asn His Gln Leu Asp Ser Lys Leu Phe Glu Tyr Phe Lys Glu Lys Ala
145 150 155 160

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

Ile Asp Met Phe Ile Leu Gly Tyr Arg Leu Ser Leu Thr Asn His Gly
180 185 190

Pro Thr Pro Val Lys Glu Gly Ser Lys Asp Pro Arg Gly Gly Ile Phe
195 200 205

Asp Ala Val Phe Thr Arg Gly Asp Gln Ser Lys Leu Leu Thr Ser Arg
210 215 220

His Asp Phe Lys Glu Lys Asn Leu Lys Glu Ile Ser Asp Leu Ile Lys
225 230 235 240

Lys Glu Leu Thr Glu Gly Lys Ala Leu Gly Leu Ser His Thr Tyr Ala

245 33 255
 250
 Asn Val Arg Ile Asn His Val Ile Asn Leu Trp Gly Ala Asp Phe Asp
 260 265 270
 Ser Asp Gly Asn Leu Lys Ala Ile Tyr Val Thr Asp Ser Asp Ser Asn
 275 280 285
 Ala Ser Ile Gly Met Lys Lys Tyr Phe Val Gly Val Asn Ser Ala Gly
 290 295 300
 Lys Val Ala Ile Ser Ala Lys Glu Ile Lys Glu Asp Asn Ile Gly Ala
 305 310 315 320
 Gln Val Leu Gly Leu Phe Thr Leu Ser Thr Gly Gln Asp Ser Trp Asn
 325 330 335
 Gln Thr Asn

<210> 17
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> May be oxidized

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> May be carboxymethylated

<220>
 <221> MISC_FEATURE

<222> (9)..(9)

<223> May be carboxymethylated

<400> 17

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

<210> 18

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> May be carboxymethylated

<220>

<221> MISC_FEATURE

<222> (14)..(14)

<223> May be oxidized

<400> 18

Glu	Ile	Gly	Leu	Leu	Thr	Cys	Glu	Ala	Thr	Val	Asn	Gly	His	Leu	Tyr
1				5				10					15		

Lys

<210> 19

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (14)..(14)

<223> May be oxidized

<400> 19

Gln	Thr	Asn	Thr	Ile	Ile	Asp	Val	Val	Leu	Ser	Pro	Ser	His	Gly	Ile
1				5					10					15	

Glu	Leu	Ser	Val	Gly	Glu	Lys
				20		

<210> 20

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (18)..(18)

<223> May be oxidized

<400> 20

Thr	Glu	Leu	Asn	Val	Gly	Ile	Asp	Phe	Asn	Trp	Glu	Tyr	Pro	Ser	Ser
1				5					10					15	

Lys	His	Gln	His	Lys
				20

<210> 21

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> May be oxidized

<400> 21

Thr Asn Tyr Leu Thr His Arg
1 5

<210> 22

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (19)..(19)

<223> May be oxidized

<400> 22

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
20

<210> 23

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> May be oxidized

<400> 23

Val His Glu Lys Asp Lys
1 5

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

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (10)..(10)
 <223> May be oxidized

<400> 24
 Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
 20

<210> 25
 <211> 24
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (20)..(20)
 <223> May be oxidized

<400> 25
 Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
 20

<210> 26
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> May be oxidized

<400> 26
 Thr Gln Ser Gly Ser Glu Met Lys
 1 5

<210> 27
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> May be carboxymethylated

<400> 27
 Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr
 1 5 10 15

Lys

<210> 28
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> May be oxidized

<400> 28

Ile Ile Trp Asp Ser Arg

1 5

<210> 29

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (11)..(11)

<223> May be oxidized

<400> 29

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

1 5 10 15

Lys

<210> 30

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> May be oxidized

<400> 30

Gly Phe Ile Ile Ser Asn Ala Thr Tyr Lys

1 5 10

<210> 31

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> May be oxidized

<400> 31

Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly Lys

1 5 10

<210> 32

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> May be oxidized

<400> 32

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

1 5 10

<210> 33
 <211> 227
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polypeptide

<220>
 <221> MOD_RES
 <222> (8)..(8)
 <223> Leu or Pro

<220>
 <221> MOD_RES
 <222> (173)..(173)
 <223> Ala or Thr

<400> 33
 Asp Lys Thr His Thr Cys Pro Xaa Cys Pro Ala Pro Glu Leu Leu Gly
 1 5 10 15

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 20 25 30

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 35 40 45

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 50 55 60

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 65 70 75 80

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 85 90 95

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 100 105 110

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Xaa Thr Pro Pro
 165 170 175

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 180 185 190

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 195 200 205

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 210 215 220

Pro Gly Lys
 225

<210> 34

<211> 103

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 34

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val

20 25 43 30
 Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45
 Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
 50 55 60
 Ile Ile Ser Asn Ala Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu
 65 70 75 80
 Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
 85 90 95
 Gln Thr Asn Thr Ile Ile Asp
 100

<210> 35
 <211> 93
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 35
 Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr
 1 5 10 15

Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile
 20 25 30

Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly
 35 40 45

Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala
 50 55 60

Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly
65 70 75 80 44

His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr
85 90

<210> 36
<211> 102
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 36
Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu Lys
1 5 10 15

Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile Asp
20 25 30

Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu Val
35 40 45

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

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

Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr Phe
85 90 95

Val Arg Val His Glu Lys
100

<210> 37
<211> 97
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 37

Pro Phe Val Ala Phe Gly Ser Gly Met Glu Ser Leu Val Glu Ala Thr
1 5 10 15

Val Gly Glu Arg Val Arg Ile Pro Ala Lys Tyr Leu Gly Tyr Pro Pro
20 25 30

Pro Glu Ile Lys Trp Tyr Lys Asn Gly Ile Pro Leu Glu Ser Asn His
35 40 45

Thr Ile Lys Ala Gly His Val Leu Thr Ile Met Glu Val Ser Glu Arg
50 55 60

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

Lys Gln Ser His Val Val Ser Leu Val Val Tyr Val Pro Pro Gly Pro
85 90 95

Gly

<210> 38

<211> 92

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 38

Phe Val Ala Phe Gly Ser Gly Met Glu Ser Leu Val Glu Ala Thr Val
1 5 10 15

Gly Glu Arg Val Arg Ile Pro Ala Lys Tyr Leu Gly Tyr Pro Pro Pro
20 25 30 46

Glu Ile Lys Trp Tyr Lys Asn Gly Ile Pro Leu Glu Ser Asn His Thr
35 40 45

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

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

Gln Ser His Val Val Ser Leu Val Val Tyr Val Pro
85 90

<210> 39
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 39
Asp Lys Thr His Thr Cys Pro Pro Cys
1 5

<210> 40
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 40
Asp Lys Thr His Thr Cys Pro Pro Cys Pro Pro Cys
1 5 10

<210> 41

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

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 41
 Asp Lys Thr His Thr Cys Pro Pro Cys Pro Pro Cys Pro Pro Cys
 1 5 10 15

<210> 42
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 42
 Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 1 5 10 15

<210> 43
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 43
 Asp Lys Thr His Thr Cys Pro Leu Cys Pro Ala Pro Glu Leu Leu Gly
 1 5 10 15

<210> 44
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 44

Asp Lys Thr His Thr Cys
 1 5

<210> 45

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 45

Asp Lys Thr His Thr Cys Pro Leu Cys Pro Ala Pro
 1 5 10

<210> 46

<211> 221

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 46

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
 50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
 85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
 100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
 115 120 125

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

His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
 145 150 155 160

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

Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
 180 185 190

Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Asp Lys Thr
 195 200 205

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 210 215 220

<210> 47

<211> 315

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 47

Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His
 1 5 10 15

Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro
 20 25 30

Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro
 35 40 45

Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser
 50 55 60

Asn Ala Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val
 65 70 75 80

Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn
 85 90 95

Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser
 100 105 110

Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn
 115 120 125

Val Gly Ile Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His
 130 135 140

Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met
 145 150 155 160

Lys Lys Phe Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp
 165 170 175

Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys
 180 185 190

Asn Ser Thr Phe Val Arg Val His Glu Asn Leu Ser Val Ala Phe Gly
 195 200 205

Ser Gly Met Glu Ser Leu Val Glu Ala Thr Val Gly Glu Arg Val Arg
 210 215 220

Ile Pro Ala Lys Tyr Leu Gly Tyr Pro Pro Pro Glu Ile Lys Trp Tyr
 225 230 235 240

Lys Asn Gly Ile Pro Leu Glu Ser Asn His Thr Ile Lys Ala Gly His
 245 250 255

Val Leu Thr Ile Met Glu Val Ser Glu Arg Asp Thr Gly Asn Tyr Thr
 260 265 270

Val Ile Leu Thr Asn Pro Ile Ser Lys Glu Lys Gln Ser His Val Val
 275 280 285

Ser Leu Val Val Tyr Val Pro Pro Gly Pro Gly Asp Lys Thr His Thr
 290 295 300

Cys Pro Leu Cys Pro Ala Pro Glu Leu Leu Gly
 305 310 315

<210> 48

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 48

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
 50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
 85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
 100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
 115 120 125

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

His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
 145 150 155 160

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

Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
 180 185 190

Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Asp Lys Thr
 195 200 205

His Thr Cys Pro Pro Cys
 210

<210> 49

<211> 217

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 49

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
115 120 125

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

His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
145 150 155 160

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

Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
 180 185 190

Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Asp Lys Thr
 195 200 205

His Thr Cys Pro Pro Cys Pro Pro Cys
 210 215

<210> 50

<211> 220

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 50

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
 50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
 85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile

100 55 110
 105
 Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
 115 120 125
 Glu Leu Asn Val Gly Ile Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys
 130 135 140
 His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
 145 150 155 160
 Ser Glu Met Lys Lys Phe Leu Ser Thr Leu Thr Ile Asp Gly Val Thr
 165 170 175
 Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
 180 185 190
 Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Asp Lys Thr
 195 200 205
 His Thr Cys Pro Pro Cys Pro Pro Cys Pro Pro Cys
 210 215 220

<210> 51

<211> 440

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 51

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
35 40 56 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
115 120 125

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

His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
145 150 155 160

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

Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
180 185 190

Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Gly Gly Gly
195 200 205

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
210 215 220

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Asp Thr Gly Arg

225		230		57 235		240									
Pro	Phe	Val	Glu	Met	Tyr	Ser	Glu	Ile	Pro	Glu	Ile	Ile	His	Met	Thr
				245					250					255	
Glu	Gly	Arg	Glu	Leu	Val	Ile	Pro	Cys	Arg	Val	Thr	Ser	Pro	Asn	Ile
			260					265					270		
Thr	Val	Thr	Leu	Lys	Lys	Phe	Pro	Leu	Asp	Thr	Leu	Ile	Pro	Asp	Gly
		275					280					285			
Lys	Arg	Ile	Ile	Trp	Asp	Ser	Arg	Lys	Gly	Phe	Ile	Ile	Ser	Asn	Ala
	290					295					300				
Thr	Tyr	Lys	Glu	Ile	Gly	Leu	Leu	Thr	Cys	Glu	Ala	Thr	Val	Asn	Gly
305					310					315					320
His	Leu	Tyr	Lys	Thr	Asn	Tyr	Leu	Thr	His	Arg	Gln	Thr	Asn	Thr	Ile
				325					330					335	
Ile	Asp	Val	Val	Leu	Ser	Pro	Ser	His	Gly	Ile	Glu	Leu	Ser	Val	Gly
			340					345					350		
Glu	Lys	Leu	Val	Leu	Asn	Cys	Thr	Ala	Arg	Thr	Glu	Leu	Asn	Val	Gly
		355					360					365			
Ile	Asp	Phe	Asn	Trp	Glu	Tyr	Pro	Ser	Ser	Lys	His	Gln	His	Lys	Lys
	370					375					380				
Leu	Val	Asn	Arg	Asp	Leu	Lys	Thr	Gln	Ser	Gly	Ser	Glu	Met	Lys	Lys
385					390					395					400
Phe	Leu	Ser	Thr	Leu	Thr	Ile	Asp	Gly	Val	Thr	Arg	Ser	Asp	Gln	Gly
				405					410					415	
Leu	Tyr	Thr	Cys	Ala	Ala	Ser	Ser	Gly	Leu	Met	Thr	Lys	Lys	Asn	Ser
			420					425					430		

Thr Phe Val Arg Val His Glu Lys
 435 440

<210> 52

<211> 425

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 52

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
 50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
 85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
 100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
 115 120 125

Glu Leu Asn Val Gly Ile Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys

130 135 59 140
 His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
 145 150 155 160
 Ser Glu Met Lys Lys Phe Leu Ser Thr Leu Thr Ile Asp Gly Val Thr
 165 170 175
 Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
 180 185 190
 Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Gly Gly Gly
 195 200 205
 Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Asp Thr Gly
 210 215 220
 Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met
 225 230 235 240
 Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn
 245 250 255
 Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp
 260 265 270
 Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn
 275 280 285
 Ala Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn
 290 295 300
 Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn Thr
 305 310 315 320
 Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val
 325 330 335

Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val
 340 345 350

Gly Ile Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys
 355 360 365

Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys
 370 375 380

Lys Phe Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln
 385 390 395 400

Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn
 405 410 415

Ser Thr Phe Val Arg Val His Glu Lys
 420 425

<210> 53

<211> 455

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 53

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe

50					55					61		60				
Ile 65	Ile	Ser	Asn	Ala	Thr 70	Tyr	Lys	Glu	Ile	Gly 75	Leu	Leu	Thr	Cys	Glu 80	
Ala	Thr	Val	Asn	Gly 85	His	Leu	Tyr	Lys	Thr 90	Asn	Tyr	Leu	Thr	His 95	Arg	
Gln	Thr	Asn	Thr 100	Ile	Ile	Asp	Val	Val 105	Leu	Ser	Pro	Ser	His 110	Gly	Ile	
Glu	Leu	Ser 115	Val	Gly	Glu	Lys	Leu 120	Val	Leu	Asn	Cys	Thr 125	Ala	Arg	Thr	
Glu	Leu 130	Asn	Val	Gly	Ile	Asp 135	Phe	Asn	Trp	Glu	Tyr 140	Pro	Ser	Ser	Lys	
His 145	Gln	His	Lys	Lys	Leu 150	Val	Asn	Arg	Asp	Leu 155	Lys	Thr	Gln	Ser	Gly 160	
Ser	Glu	Met	Lys	Lys 165	Phe	Leu	Ser	Thr	Leu 170	Thr	Ile	Asp	Gly	Val 175	Thr	
Arg	Ser	Asp	Gln 180	Gly	Leu	Tyr	Thr	Cys 185	Ala	Ala	Ser	Ser	Gly 190	Leu	Met	
Thr	Lys 195	Lys	Asn	Ser	Thr	Phe	Val 200	Arg	Val	His	Glu	Lys 205	Gly	Gly	Gly	
Gly	Ser 210	Gly	Gly	Gly	Gly	Ser 215	Gly	Gly	Gly	Gly	Ser 220	Gly	Gly	Gly	Gly	
Ser 225	Gly	Gly	Gly	Gly	Ser 230	Gly	Gly	Gly	Gly	Ser 235	Gly	Gly	Gly	Gly	Ser 240	
Gly	Gly	Gly	Gly	Ser 245	Gly	Gly	Gly	Gly	Ser 250	Ser	Asp	Thr	Gly	Arg 255	Pro	

Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr Glu
 260 265 270

Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile Thr
 275 280 285

Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly Lys
 290 295 300

Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala Thr
 305 310 315 320

Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly His
 325 330 335

Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile Ile
 340 345 350

Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu
 355 360 365

Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile
 370 375 380

Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu
 385 390 395 400

Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe
 405 410 415

Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu
 420 425 430

Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr
 435 440 445

Phe Val Arg Val His Glu Lys
450 455

<210> 54

<211> 470

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 54

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
115 120 125

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

His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
 145 150 155 160

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

Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
 180 185 190

Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Gly Gly Gly
 195 200 205

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 210 215 220

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 245 250 255

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Asp Thr Gly Arg Pro Phe
 260 265 270

Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr Glu Gly
 275 280 285

Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile Thr Val
 290 295 300

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

Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala Thr Tyr
 325 330 335

Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly His Leu
 340 345 350

Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile Ile Asp
 355 360 365

Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu Lys
 370 375 380

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

Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu Val
 405 410 415

Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe Leu
 420 425 430

Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu Tyr
 435 440 445

Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr Phe
 450 455 460

Val Arg Val His Glu Lys
 465 470

<210> 55

<211> 432

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 55

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
 50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
 85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
 100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr
 115 120 125

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

His Gln His Lys Lys Leu Val Asn Arg Asp Leu Lys Thr Gln Ser Gly
 145 150 155 160

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

Arg Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met
 180 185 190

Thr Lys Lys Asn Ser Thr Phe Val Arg Val His Glu Lys Asp Lys Thr
 195 200 205

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 210 215 220

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

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 245 250 255

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 260 265 270

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

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

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 305 310 315 320

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 325 330 335

Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
 340 345 350

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 355 360 365

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

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
 385 390 395 400

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 405 410 415

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 420 425 430

<210> 56
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 56
 Ile Ile Trp Asp Ser Arg
 1 5

<210> 57
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 57
 Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly His Leu Tyr
 1 5 10 15

Lys

<210> 58
 <211> 23
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 58

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
 1 5 10 15

Glu Leu Ser Val Gly Glu Lys
 20

<210> 59

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 59

Thr Glu Leu Asn Val Gly Ile Asp Phe Asn Trp Glu Tyr Pro Ser Ser
 1 5 10 15

Lys His Gln His Lys
 20

<210> 60

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 60

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

<210> 61

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 61

Thr Asn Tyr Leu Thr His Arg
1 5

<210> 62

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> May be carboxymethylated

<400> 62

Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly His Leu Tyr
1 5 10 15

Lys

<210> 63

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 63

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
1 5 10 15

Glu Leu Ser Val Gly Glu Lys
20

<210> 64

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

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (10)..(10)
 <223> May be oxidized

<400> 64
 Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
 20

<210> 65
 <211> 24
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (20)..(20)
 <223> May be oxidized

<400> 65
 Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
 20

<210> 66
 <211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> May be oxidized

<400> 66

Thr Gln Ser Gly Ser Glu Met Lys

1 5

<210> 67

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> May be carboxymethylated

<220>

<221> MISC_FEATURE

<222> (15)..(15)

<223> May be oxidized

<400> 67

Ser Asp Gln Gly Leu Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr

1 5 10 15

Lys

<210> 68

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 68

Ser	Asp	Thr	Gly	Arg	Pro	Phe	Val	Glu	Met	Tyr	Ser	Glu	Ile	Pro	Glu
1				5				10					15		

Ile	Ile	His	Met	Thr	Glu	Gly	Arg
					20		

<210> 69

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> May be oxidized

<400> 69

Gly	Phe	Ile	Ile	Ser	Asn	Ala	Thr	Tyr	Lys
1				5				10	

<210> 70

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> May be oxidized

<400> 70

Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly Lys
1 5 10

<210> 71

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> May be oxidized

<400> 71

Phe Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg
1 5 10

<210> 72

<211> 165

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 72

Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val Lys
1 5 10 15

Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu
20 25 30

Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys
35 40 45

Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp Glu
50 55 60 75

Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile
65 70 75 80

Met Arg Ile Lys Pro His Gln Gly Gln His Ile Gly Glu Met Ser Phe
85 90 95

Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg
100 105 110

Gln Glu Asn Pro Cys Gly Pro Cys Ser Glu Arg Arg Lys His Leu Phe
115 120 125

Val Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr Asp Ser
130 135 140

Arg Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys
145 150 155 160

Asp Lys Pro Arg Arg
165

<210> 73

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 73

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

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Ser
20 25 30

Gly Met Ser Trp Val Arg Gln Thr Pro Asp Lys Arg Leu Glu Trp Val
 35 40 45

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

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

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

Ala Arg Leu Gly Asn Tyr Gly Gly Tyr Tyr Ala Met Asp Tyr Trp Gly
 100 105 110

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

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

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

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

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

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

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

77
Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
225 230 235 240

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

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

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

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

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

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

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

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

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

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

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

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

78

420

425

430

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

Pro Gly Lys
450

<210> 74

<211> 213

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 74

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

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

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

His Tyr Ala Ser Thr Leu Gln Pro Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Leu Glu Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Leu Gln Tyr Asp Tyr Leu Trp Thr
85 90 95

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

Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125 79

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

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

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

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

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

Asn Arg Gly Glu Cys
210

<210> 75

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 75

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

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

Gly Met Ser Trp Val Arg Gln Thr Pro Asp Lys Arg Leu Glu Trp Val
35 40 45

80

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

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

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

Ala Arg Leu Gly Asn Tyr Gly Gly Tyr Tyr Gly Met Asp Tyr Trp Gly
100 105 110

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

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

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

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

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

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

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

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

81
Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

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

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

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

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

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

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

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

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

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

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

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

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser

82

435

440

445

Pro Gly Lys
450

<210> 76

<211> 213

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 76

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

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

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

His Tyr Thr Ser Thr Leu Gln Pro Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Leu Glu Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Asn Leu Trp Thr
85 90 95

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

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

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 83 140

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

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

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

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

Asn Arg Gly Glu Cys
210

<210> 77

<211> 445

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 77

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

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Ser
20 25 30

Gly Met Ser Trp Val Arg Gln Thr Pro Asp Lys Arg Leu Glu Trp Val
35 40 45

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

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

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

Ala Arg Leu Gly Asn Tyr Gly Gly Tyr Tyr Ala Met Asp Tyr Trp Gly
 100 105 110

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

Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
 130 135 140

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

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

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

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

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

Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
 225 230 235 240

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

Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln
260 265 270 85

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

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

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

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

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

Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
355 360 365

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

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly
385 390 395 400

Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
405 410 415

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

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440 445

<210> 78

<211> 213

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 78

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

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

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

His Tyr Ala Ser Thr Leu Gln Pro Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Leu Glu Pro
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Leu Gln Tyr Asp Tyr Leu Trp Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp Ala Ala Pro
 100 105 110

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

Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn
 130 135 140

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

Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
165 170 175

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

Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser Phe
195 200 205

Asn Arg Gly Glu Cys
210

<210> 79

<211> 445

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 79

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

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

Gly Met Ser Trp Val Arg Gln Thr Pro Asp Lys Arg Leu Glu Trp Val
35 40 45

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

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

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

Ala Arg Leu Gly Asn Tyr Gly Gly Tyr Tyr Gly Met Asp Tyr Trp Gly
 100 105 110

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

Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
 130 135 140

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

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

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

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

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

Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
 225 230 235 240

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

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

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

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu
290 295 300 89

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

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

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

Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
355 360 365

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

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly
385 390 395 400

Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
405 410 415

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

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
435 440 445

<210> 80

<211> 200

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

90

<400> 80

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

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

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

His Tyr Thr Ser Thr Leu Gln Pro Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Leu Glu Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Asn Leu Trp Thr
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala Pro
100 105 110

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

Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn
130 135 140

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

Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
165 170 175

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

Cys Glu Ala Thr His Lys Thr Ser
 195 200

<210> 81
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 81
 Glu Leu Val Ile Pro Cys Arg
 1 5

<210> 82
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 82
 Leu Val Leu Asn Cys Thr Ala Arg
 1 5

<210> 83
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> May be oxidized

<400> 83
 Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly

1

5

10

<210> 84

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 84

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

Thr	Val	Asn	Gly	His	Leu	Tyr	Lys
				20			

<210> 85

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (26)..(26)

<223> May or may not be present

<400> 85

Leu	Val	Leu	Asn	Cys	Thr	Ala	Arg	Ser	Asp	Gln	Gly	Leu	Tyr	Thr	Cys
1				5					10					15	

Ala	Ala	Ser	Ser	Gly	Leu	Met	Thr	Lys	Lys
				20				25	

<210> 86

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (28)..(28)

<223> May or may not be present

<400> 86

Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Thr	His
1				5					10					15	

Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly
			20					25			

<210> 87

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 87

Glu	Ile	Gly	Leu	Leu	Thr	Cys	Glu	Ala	Thr	Val	Asn	Gly	His	Leu	Tyr
1				5					10					15	

Lys

<210> 88

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 88

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile

1 5 10 15

```
<210> 89
<211> 24
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

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<220>  
<221> MISC_FEATURE  
<222> (10)..(10)  
<223> May be oxidized
```

<400> 89
Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
20

```
<210> 90
<211> 24
<212> PRT
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Synthetic peptide

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<220>  
<221> MISC_FEATURE  
<222> (20)..(20)  
<223> May be oxidized
```

<400> 90
Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
20

<210> 91
<211> 54
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<220>
<221> MISC_FEATURE
<222> (40)..(40)
<223> May be oxidized

<400> 91
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Asp
20 25 30

Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile
35 40 45

His Met Thr Glu Gly Arg
50

<210> 92
<211> 54
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<220>

<221> MISC_FEATURE

<222> (50)..(50)

<223> May be oxidized

<400> 92

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Asp
20 25 30

Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile
35 40 45

His Met Thr Glu Gly Arg
50

<210> 93

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> May be oxidized

<400> 93

Thr Gln Ser Gly Ser Glu Met Lys
1 5

<210> 94

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (15)..(15)

<223> May be oxidized

<400> 94

Ser	Asp	Gln	Gly	Leu	Tyr	Thr	Cys	Ala	Ala	Ser	Ser	Gly	Leu	Met	Thr
1				5				10					15		

Lys

<210> 95

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 95

Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly
1			5					10					

<210> 96

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 96

Gln	Thr	Asn	Thr	Ile	Ile	Asp	Val	Val	Leu	Ser	Pro	Ser	His	Gly	Ile
1			5					10					15		

Glu	Leu	Ser	Val	Gly	Glu	Lys
			20			

<210> 97

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<223> See specification as filed for detailed description of substitutions and preferred embodiments

<400> 97

Thr Asn Tyr Leu Thr His Arg

1 5

<210> 98

<211> 54

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 98

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Asp
20 25 30

Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile
35 40 45

His Met Thr Glu Gly Arg
50

<210> 99

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

99

<223> Description of Artificial Sequence: Synthetic peptide

<400> 99

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
1 5 10 15

Ile Ile His Met Thr Glu Gly Arg
20

<210> 100

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> May or may not be present

<400> 100

Arg Val Thr Ser Pro Asn Ile Thr Val Thr Leu Lys
1 5 10

<210> 101

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> May or may not be present

<400> 101

Lys Gly Phe Ile Ile Ser Asn Ala Thr Tyr Lys

1 5 10 100

<210> 102
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> May or may not be present

<400> 102
Lys Leu Val Leu Asn Cys Thr Ala Arg
1 5

<210> 103
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> May or may not be present

<400> 103
Lys Asn Ser Thr Phe Val Arg
1 5

<210> 104
<211> 60
<212> PRT
<213> Artificial Sequence

<220>

101

<223> Description of Artificial Sequence: Synthetic polypeptide

<220>

<221> MISC_FEATURE

<222> (1)..(60)

<223> This sequence may encompass 1-15 'Gly Gly Gly Ser' repeating units

<400> 104

Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
20 25 30

Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
35 40 45

Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
50 55 60

<210> 105

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (7)..(21)

<223> This region may encompass 1-5 'Pro Pro Cys' repeating units

<400> 105

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Pro Cys Pro Pro Cys Pro
1 5 10 15

Pro Cys Pro Pro Cys

20

<210> 106
 <211> 226
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 polypeptide

<220>
 <221> MISC_FEATURE
 <222> (212)..(226)
 <223> This region may encompass 1-5 'Pro Pro Cys'
 repeating units

<400> 106
 Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val
 20 25 30

Thr Ser Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr
 35 40 45

Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe
 50 55 60

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

Ala Thr Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg
 85 90 95

Gln Thr Asn Thr Ile Ile Asp Val Val Leu Ser Pro Ser His Gly Ile
 100 105 110

Glu Leu Ser Val Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 108

Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly
1				5					10					15	

Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
			20					25					30

<210> 109

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 109

Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly
1				5					10					15	

Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly
			20					25					30		

Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
		35					40					45

<210> 110

<211> 60

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 110

Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly
1				5					10					15	

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 20 25 30

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
 35 40 45

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 50 55 60

<210> 111

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 111

Gly Gly Gly Gly Ser
 1 5

<210> 112

<211> 485

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<220>

<221> MISC_FEATURE

<222> (206)..(280)

<223> This region may encompass 1-15 'Gly Gly Gly Gly Ser' repeating units

<400> 112

Ser Asp Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu
 1 5 10 15

Ile Ile His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val

106															
20				25				30							
Thr	Ser	Pro	Asn	Ile	Thr	Val	Thr	Leu	Lys	Lys	Phe	Pro	Leu	Asp	Thr
		35					40					45			
Leu	Ile	Pro	Asp	Gly	Lys	Arg	Ile	Ile	Trp	Asp	Ser	Arg	Lys	Gly	Phe
50						55					60				
Ile	Ile	Ser	Asn	Ala	Thr	Tyr	Lys	Glu	Ile	Gly	Leu	Leu	Thr	Cys	Glu
65					70					75					80
Ala	Thr	Val	Asn	Gly	His	Leu	Tyr	Lys	Thr	Asn	Tyr	Leu	Thr	His	Arg
				85					90					95	
Gln	Thr	Asn	Thr	Ile	Ile	Asp	Val	Val	Leu	Ser	Pro	Ser	His	Gly	Ile
		100						105					110		
Glu	Leu	Ser	Val	Gly	Glu	Lys	Leu	Val	Leu	Asn	Cys	Thr	Ala	Arg	Thr
		115					120					125			
Glu	Leu	Asn	Val	Gly	Ile	Asp	Phe	Asn	Trp	Glu	Tyr	Pro	Ser	Ser	Lys
130						135					140				
His	Gln	His	Lys	Lys	Leu	Val	Asn	Arg	Asp	Leu	Lys	Thr	Gln	Ser	Gly
145					150					155					160
Ser	Glu	Met	Lys	Lys	Phe	Leu	Ser	Thr	Leu	Thr	Ile	Asp	Gly	Val	Thr
				165					170					175	
Arg	Ser	Asp	Gln	Gly	Leu	Tyr	Thr	Cys	Ala	Ala	Ser	Ser	Gly	Leu	Met
		180						185					190		
Thr	Lys	Lys	Asn	Ser	Thr	Phe	Val	Arg	Val	His	Glu	Lys	Gly	Gly	Gly
		195					200					205			
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly
210						215					220				

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 245 250 255

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 260 265 270

Gly Gly Ser Gly Gly Gly Gly Ser Ser Asp Thr Gly Arg Pro Phe Val
 275 280 285

Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr Glu Gly Arg
 290 295 300

Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile Thr Val Thr
 305 310 315 320

Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly Lys Arg Ile
 325 330 335

Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala Thr Tyr Lys
 340 345 350

Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly His Leu Tyr
 355 360 365

Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile Ile Asp Val
 370 375 380

Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu Lys Leu
 385 390 395 400

Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile Asp Phe
 405 410 415

Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu Val Asn
 420 425 430

Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe Leu Ser
 435 440 445

Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu Tyr Thr
 450 455 460

Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr Phe Val
 465 470 475 480

Arg Val His Glu Lys
 485

<210> 113

<211> 211

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 113

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

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 20 25 30

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 35 40 45

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 50 55 60

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 65 70 75 80

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 85 90 95

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 100 105 110

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
 115 120 125

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 130 135 140

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 145 150 155 160

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 180 185 190

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 195 200 205

Pro Gly Lys
 210

<210> 114

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> May be oxidized

<400> 114

Ile Ile Trp Asp Ser Arg Lys

1 5

<210> 115

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> May be oxidized

<400> 115

Arg Ile Ile Trp Asp Ser Arg

1 5

<210> 116

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 116

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys

1 5 10

<210> 117

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

111

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> May be oxidized

<400> 117

Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys
1				5					10					15	

<210> 118

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> May be oxidized

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> May be carboxymethylated

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> May be carboxymethylated

<400> 118

Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro
1				5					10					15	

Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys
			20					25	

<210> 119
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> May be oxidized

<400> 119
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
1 5 10 15

<210> 120
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 120
Ser Asp Thr Gly Arg Pro Phe Val Glu Met
1 5 10

<210> 121
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 121
Val Thr Ser Pro Asn Ile Thr Val Thr Leu Lys
1 5 10

<210> 122

<211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 122
 Asn Ser Thr Phe Val Arg
 1 5

<210> 123
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (14)..(14)
 <223> May or may not be present

<400> 123
 Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 1 5 10

<210> 124
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> May be oxidized

<400> 124

Ile Ile Ile Trp Asp Ser Arg
1 5

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