

SEQUENCE LISTING

<110> AMGEN INC.
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<120> GROWTH DIFFERENTIATION FACTOR 15 FUSION PROTEINS

<130> A-2239-WO-PCT

<150> 62/655,108

<151> 2018-04-09

<160> 58

<170> PatentIn version 3.5

<210> 1

<211> 927

<212> DNA

<213> Homo sapiens

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<210> 2

<211> 308

<212> PRT

<213> Homo sapiens

<400> 2

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Ala	Glu	Ala	Ser	Arg	Ala	Ser	Phe	Pro	Gly	Pro	Ser	Glu	Leu	His	Ser	35	40	45	
Glu	Asp	Ser	Arg	Phe	Arg	Glu	Leu	Arg	Lys	Arg	Tyr	Glu	Asp	Leu	Leu	50	55	60	
Thr	Arg	Leu	Arg	Ala	Asn	Gln	Ser	Trp	Glu	Asp	Ser	Asn	Thr	Asp	Leu	65	70	75	80
Val	Pro	Ala	Pro	Ala	Val	Arg	Ile	Leu	Thr	Pro	Glu	Val	Arg	Leu	Gly	85	90	95	
Ser	Gly	Gly	His	Leu	His	Leu	Arg	Ile	Ser	Arg	Ala	Ala	Leu	Pro	Glu	100	105	110	
Gly	Leu	Pro	Glu	Ala	Ser	Arg	Leu	His	Arg	Ala	Leu	Phe	Arg	Leu	Ser	115	120	125	
Pro	Thr	Ala	Ser	Arg	Ser	Trp	Asp	Val	Thr	Arg	Pro	Leu	Arg	Arg	Gln	130	135	140	
Leu	Ser	Leu	Ala	Arg	Pro	Gln	Ala	Pro	Ala	Leu	His	Leu	Arg	Leu	Ser	145	150	155	160
Pro	Pro	Pro	Ser	Gln	Ser	Asp	Gln	Leu	Leu	Ala	Glu	Ser	Ser	Ser	Ala	165	170	175	
Arg	Pro	Gln	Leu	Glu	Leu	His	Leu	Arg	Pro	Gln	Ala	Ala	Arg	Gly	Arg	180	185	190	
Arg	Arg	Ala	Arg	Ala	Arg	Asn	Gly	Asp	His	Cys	Pro	Leu	Gly	Pro	Gly	195	200	205	
Arg	Cys	Cys	Arg	Leu	His	Thr	Val	Arg	Ala	Ser	Leu	Glu	Asp	Leu	Gly	210	215	220	
Trp	Ala	Asp	Trp	Val	Leu	Ser	Pro	Arg	Glu	Val	Gln	Val	Thr	Met	Cys	225	230	235	240
Ile	Gly	Ala	Cys	Pro	Ser	Gln	Phe	Arg	Ala	Ala	Asn	Met	His	Ala	Gln	245	250	255	

Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro
 260 265 270

Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr
 275 280 285

Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp
 290 295 300

Cys His Cys Ile
 305

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

<400> 3
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<210> 4
 <211> 279
 <212> PRT
 <213> Homo sapiens

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Leu His Ser Glu Asp Ser Arg Phe Arg Glu Leu Arg Lys Arg Tyr Glu
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Asp Leu Leu Thr Arg Leu Arg Ala Asn Gln Ser Trp Glu Asp Ser Asn
 35 40 45

Thr Asp Leu Val Pro Ala Pro Ala Val Arg Ile Leu Thr Pro Glu Val
 50 55 60

Arg Leu Gly Ser Gly Gly His Leu His Leu Arg Ile Ser Arg Ala Ala
 65 70 75 80

Leu Pro Glu Gly Leu Pro Glu Ala Ser Arg Leu His Arg Ala Leu Phe
 85 90 95

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

Arg Arg Gln Leu Ser Leu Ala Arg Pro Gln Ala Pro Ala Leu His Leu
 115 120 125

Arg Leu Ser Pro Pro Pro Ser Gln Ser Asp Gln Leu Leu Ala Glu Ser
 130 135 140

Ser Ser Ala Arg Pro Gln Leu Glu Leu His Leu Arg Pro Gln Ala Ala
 145 150 155 160

Arg Gly Arg Arg Arg Ala Arg Ala Arg Asn Gly Asp His Cys Pro Leu
 165 170 175

Gly Pro Gly Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu
 180 185 190

Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val
 195 200 205

Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met
 210 215 220

His Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val
 225 230 235 240

Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile
 245 250 255

Gln Lys Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu
 260 265 270

Ala Lys Asp Cys His Cys Ile
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<210> 5
 <211> 339
 <212> DNA
 <213> Homo sapiens

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 tatgatgact tgttagccaa agactgccac tgcatatga 339

<210> 6
 <211> 112
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 <213> Homo sapiens

<400> 6
 Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
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 Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
 20 25 30
 Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
 35 40 45
 Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
 50 55 60
 Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
 65 70 75 80
 Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
 85 90 95
 Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
 100 105 110

<210> 7
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 <212> DNA
 <213> Mus musculus

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ttccaggacc tgctgagccg gctgcatgcc aaccagagcc gagaggactc gaactcagaa	240
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<400> 8

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		20					25						30		

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

Glu	Ser	Gln	Leu	Asn	Ala	Asp	Glu	Leu	Arg	Gly	Arg	Phe	Gln	Asp	Leu
	50					55					60				

Leu	Ser	Arg	Leu	His	Ala	Asn	Gln	Ser	Arg	Glu	Asp	Ser	Asn	Ser	Glu
65					70					75					80

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

Gly	Ser	His	Gly	Gln	Leu	Leu	Leu	Arg	Val	Asn	Arg	Ala	Ser	Leu	Ser
			100					105					110		

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

<210> 9

<211> 816

<212> DNA

<213> Mus musculus

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agctacaccc cgggtggttct tatgcacagg acagacagtg gtgtgtcact gcagacttat	780
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 <211> 271
 <212> PRT
 <213> Mus musculus

<400> 10

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Glu	Ser	Gln	Leu	Asn	Ala	Asp	Glu	Leu	Arg	Gly	Arg	Phe	Gln	Asp	Leu
			20					25					30		

Leu	Ser	Arg	Leu	His	Ala	Asn	Gln	Ser	Arg	Glu	Asp	Ser	Asn	Ser	Glu
		35					40					45			

Pro	Ser	Pro	Asp	Pro	Ala	Val	Arg	Ile	Leu	Ser	Pro	Glu	Val	Arg	Leu
	50					55					60				

Gly	Ser	His	Gly	Gln	Leu	Leu	Leu	Arg	Val	Asn	Arg	Ala	Ser	Leu	Ser
65					70					75				80	

Gln	Gly	Leu	Pro	Glu	Ala	Tyr	Arg	Val	His	Arg	Ala	Leu	Leu	Leu	Leu
				85					90				95		

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

Leu	Ser	Leu	Arg	Gly	Pro	Arg	Ala	Pro	Ala	Leu	Arg	Leu	Arg	Leu	Thr
		115					120					125			

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

Leu Arg Leu Arg Val Ala Ala Gly Arg Gly Arg Arg Ser Ala His Ala
 145 150 155 160

His Pro Arg Asp Ser Cys Pro Leu Gly Pro Gly Arg Cys Cys His Leu
 165 170 175

Glu Thr Val Gln Ala Thr Leu Glu Asp Leu Gly Trp Ser Asp Trp Val
 180 185 190

Leu Ser Pro Arg Gln Leu Gln Leu Ser Met Cys Val Gly Glu Cys Pro
 195 200 205

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

His Gly Leu Gln Pro Asp Lys Val Pro Ala Pro Cys Cys Val Pro Ser
 225 230 235 240

Ser Tyr Thr Pro Val Val Leu Met His Arg Thr Asp Ser Gly Val Ser
 245 250 255

Leu Gln Thr Tyr Asp Asp Leu Val Ala Arg Gly Cys His Cys Ala
 260 265 270

<210> 11
 <211> 348
 <212> DNA
 <213> Mus musculus

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 tgtgtcccct ccagctacac cccgggtggtt cttatgcaca ggacagacag tgggtgtgtca 300
 ctgcagactt atgatgacct ggtggcccg ggctgccact gcgcttga 348

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 <212> PRT
 <213> Mus musculus

<400> 12

Ser Ala His Ala His Pro Arg Asp Ser Cys Pro Leu Gly Pro Gly Arg
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Cys Cys His Leu Glu Thr Val Gln Ala Thr Leu Glu Asp Leu Gly Trp
 20 25 30

Ser Asp Trp Val Leu Ser Pro Arg Gln Leu Gln Leu Ser Met Cys Val
35 40 45

Gly Glu Cys Pro His Leu Tyr Arg Ser Ala Asn Thr His Ala Gln Ile
50 55 60

Lys Ala Arg Leu His Gly Leu Gln Pro Asp Lys Val Pro Ala Pro Cys
65 70 75 80

Cys Val Pro Ser Ser Tyr Thr Pro Val Val Leu Met His Arg Thr Asp
85 90 95

Ser Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Val Ala Arg Gly Cys
100 105 110

His Cys Ala
115

<210> 13
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 13

Gly Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg Leu His Thr
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Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp Val Leu Ser
20 25 30

Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys Pro Ser Gln
35 40 45

Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser Leu His Arg
50 55 60

Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr
65 70 75 80

Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val Ser Leu Gln
85 90 95

Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105

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

<220>
<223> Synthetic Polypeptide

<400> 14

Ala Arg Gln Gly Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
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Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

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

<210> 15
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<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 15

Ala Arg Asp Gly Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

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

<210> 16

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 16

Ala Arg Asn Gly Glu His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
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Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

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

<210> 17

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 17

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

Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp Val Leu Ser
20 25 30

Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys Pro Ser Gln
35 40 45

Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser Leu His Arg
50 55 60

Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr
65 70 75 80

Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val Ser Leu Gln
85 90 95

Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105

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

<220>
<223> Synthetic Polypeptide

<400> 18

Ala Arg Gln Gly Glu His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
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Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

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

<210> 19
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<212> PRT
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<220>
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<400> 19

Gly Gly Gly Gly Ser
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<210> 20
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<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 20

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10

<210> 21
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<212> PRT
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<220>
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<400> 21

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Gly Gly Gly Ser
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<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 22

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
35 40

<210> 23
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<220>
<223> Synthetic Polypeptide

<400> 23

Gly Gly Gly Gly
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<210> 24
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<400> 24

Gly Gly Gly Gly Gln
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<210> 25
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<212> PRT
<213> Artificial Sequence

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<223> Synthetic Polypeptide

<400> 25

Gly Gly Gly Gly Gln Gly Gly Gly Gly Gln Gly Gly Gly Gly Gln Gly
1 5 10 15

Gly Gly Gly Gln
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<210> 26
<211> 216
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 26

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
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Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
20 25 30

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Asp Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly
210 215

<210> 27

<211> 216

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 27

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

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

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly
210 215

<210> 28

<211> 216

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 28

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

Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	
			20					25					30			
Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	
		35					40					45				
Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	
	50					55					60					
Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	
65					70					75					80	
Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	
				85					90					95		
Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	
			100					105					110			
Pro	Arg	Glu	Pro	Gln	Val	Cys	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	
		115					120					125				
Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	
	130					135					140					
Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	
145					150					155					160	
Tyr	Asp	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	
				165					170					175		
Tyr	Ser	Asp	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	
			180					185					190			
Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	
		195					200					205				
Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly									
		210				215										

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

<220>
 <223> Synthetic Polypeptide

<400> 29

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	
Cys	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	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	Asp	Thr	Thr	Pro	Pro	145	150	155	160
Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Asp	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															210			

<210> 30

<211> 210

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 30

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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
210

<210> 31

<211> 216

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 31

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Asp Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly
210 215

<210> 32

<211> 217

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 32

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

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

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Lys
210 215

<210> 33

<211> 217

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 33

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Asp Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Lys
210 215

<210> 34
<211> 217
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 34

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Cys Arg Lys Glu Met
115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Lys
210 215

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

<220>
<223> Synthetic Polypeptide

<400> 35

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 Cys Arg Lys Glu Met 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 Lys 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> 36

<211> 211

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 36

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 Lys Glu Met 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 Lys 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> 37

<211> 217

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 37

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

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

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln
		195					200					205			

Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys
	210					215		

<210> 38
 <211> 630
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Fusion Protein

<400> 38

Gly	Gly	Gly	Glu	Arg	Lys	Ser	Ser	Val	Glu	Cys	Pro	Pro	Cys	Pro	Ala
1				5					10					15	

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

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

Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp
	50					55					60				

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

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

Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu
			100					105					110		

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

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

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

Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys
				165					170					175	

Thr	Thr	Pro	Pro	Met	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser
			180					185					190		

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

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

Leu Ser Leu Ser Pro Gly 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 Glu Arg
 260 265 270

Lys Ser Ser Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly
 275 280 285

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 290 295 300

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 305 310 315 320

Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 325 330 335

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
 340 345 350

Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys
 355 360 365

Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu
 370 375 380

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

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

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 420 425 430

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met
 435 440 445

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
450 455 460

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
465 470 475 480

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
485 490 495

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
500 505 510

Ser Gly Gly Gly Gly Ser Ala Arg Asn Gly Asp His Cys Pro Leu Gly
515 520 525

Pro Gly Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp
530 535 540

Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr
545 550 555 560

Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His
565 570 575

Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro
580 585 590

Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln
595 600 605

Lys Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala
610 615 620

Lys Asp Cys His Cys Ile
625 630

<210> 39
<211> 348
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 39

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 100 105 110

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 145 150 155 160

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

Tyr Ser Asp Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
 195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Gly Gly Gly Gly Ser Gly Gly Gly
 210 215 220

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Arg Asn Gly
 225 230 235 240

Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg Leu His Thr Val
 245 250 255

Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro
 260 265 270

Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe
275 280 285

Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser Leu His Arg Leu
290 295 300

Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn
305 310 315 320

Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val Ser Leu Gln Thr
325 330 335

Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
340 345

<210> 40
<211> 332
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 40

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

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

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Gly Gly Gly Gly Ala Arg Asn Gly
210 215 220

Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg Leu His Thr Val
225 230 235 240

Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro
245 250 255

Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe
260 265 270

Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser Leu His Arg Leu
275 280 285

Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn
290 295 300

Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val Ser Leu Gln Thr
305 310 315 320

Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
325 330

<210> 41

<211> 325

<212> PRT

<213> Artificial Sequence

<220>

<223> Fusion Protein

<400> 41

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

Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	
			20					25						30		
Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	
		35					40					45				
Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	
	50					55					60					
Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	
65					70					75					80	
Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	
				85					90					95		
Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	
			100					105						110		
Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	
		115					120					125				
Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	
	130					135					140					
Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	
145					150					155					160	
Tyr	Asp	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	
				165					170					175		
Tyr	Ser	Asp	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	
			180					185					190			
Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	
		195					200					205				
Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Gly	Asp	His	Cys	Pro	Leu	Gly	Pro	
	210					215					220					
Gly	Arg	Cys	Cys	Arg	Leu	His	Thr	Val	Arg	Ala	Ser	Leu	Glu	Asp	Leu	
225					230					235					240	
Gly	Trp	Ala	Asp	Trp	Val	Leu	Ser	Pro	Arg	Glu	Val	Gln	Val	Thr	Met	
				245					250					255		
Cys	Ile	Gly	Ala	Cys	Pro	Ser	Gln	Phe	Arg	Ala	Ala	Asn	Met	His	Ala	
			260					265					270			

Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala
275 280 285

Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys
290 295 300

Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys
305 310 315 320

Asp Cys His Cys Ile
325

<210> 42
<211> 328
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 42

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Asp Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Ala Arg Asp Gly Asp His Cys Pro
210 215 220

Leu Gly Pro Gly Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu
225 230 235 240

Glu Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln
245 250 255

Val Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn
260 265 270

Met His Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr
275 280 285

Val Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu
290 295 300

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

Leu Ala Lys Asp Cys His Cys Ile
325

<210> 43

<211> 325

<212> PRT

<213> Artificial Sequence

<220>

<223> Fusion Protein

<400> 43

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

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

Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	35	40	45
Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	50	55	60
Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	65	70	75
Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	85	90	95
Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	100	105	110
Pro	Arg	Glu	Pro	Gln	Val	Cys	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	115	120	125
Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	130	135	140
Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	145	150	155
Tyr	Asp	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	165	170	175
Tyr	Ser	Asp	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	180	185	190
Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	195	200	205
Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Gly	Asp	His	Cys	Pro	Leu	Gly	Pro	210	215	220
Gly	Arg	Cys	Cys	Arg	Leu	His	Thr	Val	Arg	Ala	Ser	Leu	Glu	Asp	Leu	225	230	235
Gly	Trp	Ala	Asp	Trp	Val	Leu	Ser	Pro	Arg	Glu	Val	Gln	Val	Thr	Met	245	250	255
Cys	Ile	Gly	Ala	Cys	Pro	Ser	Gln	Phe	Arg	Ala	Ala	Asn	Met	His	Ala	260	265	270
Gln	Ile	Lys	Thr	Ser	Leu	His	Arg	Leu	Lys	Pro	Asp	Thr	Val	Pro	Ala	275	280	285

Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys
290 295 300

Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys
305 310 315 320

Asp Cys His Cys Ile
325

<210> 44

<211> 328

<212> PRT

<213> Artificial Sequence

<220>

<223> Fusion Protein

<400> 44

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Cys Thr Leu Pro Pro Ser Arg Glu Glu Met
115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr	Ser	Asp	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	
			180					185					190			
Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	
		195					200					205				
Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Ala	Arg	Asp	Gly	Asp	His	Cys	Pro	
	210					215					220					
Leu	Gly	Pro	Gly	Arg	Cys	Cys	Arg	Leu	His	Thr	Val	Arg	Ala	Ser	Leu	
225					230					235					240	
Glu	Asp	Leu	Gly	Trp	Ala	Asp	Trp	Val	Leu	Ser	Pro	Arg	Glu	Val	Gln	
				245					250					255		
Val	Thr	Met	Cys	Ile	Gly	Ala	Cys	Pro	Ser	Gln	Phe	Arg	Ala	Ala	Asn	
			260					265					270			
Met	His	Ala	Gln	Ile	Lys	Thr	Ser	Leu	His	Arg	Leu	Lys	Pro	Asp	Thr	
		275					280					285				
Val	Pro	Ala	Pro	Cys	Cys	Val	Pro	Ala	Ser	Tyr	Asn	Pro	Met	Val	Leu	
	290					295					300					
Ile	Gln	Lys	Thr	Asp	Thr	Gly	Val	Ser	Leu	Gln	Thr	Tyr	Asp	Asp	Leu	
305					310					315					320	
Leu	Ala	Lys	Asp	Cys	His	Cys	Ile									
				325												

<210> 45
 <211> 319
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Fusion Protein

<400> 45

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	
Cys	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	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	Asp	Thr	Thr	Pro	Pro	145	150	155	160
Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Asp	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	Gly	Glu	His	Cys	Pro	Leu	Gly	Pro	Gly	Arg	Cys	Cys	Arg	Leu	210	215	220	
His	Thr	Val	Arg	Ala	Ser	Leu	Glu	Asp	Leu	Gly	Trp	Ala	Asp	Trp	Val	225	230	235	240
Leu	Ser	Pro	Arg	Glu	Val	Gln	Val	Thr	Met	Cys	Ile	Gly	Ala	Cys	Pro	245	250	255	
Ser	Gln	Phe	Arg	Ala	Ala	Asn	Met	His	Ala	Gln	Ile	Lys	Thr	Ser	Leu	260	265	270	
His	Arg	Leu	Lys	Pro	Asp	Thr	Val	Pro	Ala	Pro	Cys	Cys	Val	Pro	Ala	275	280	285	
Ser	Tyr	Asn	Pro	Met	Val	Leu	Ile	Gln	Lys	Thr	Asp	Thr	Gly	Val	Ser	290	295	300	

Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
305 310 315

<210> 46

<211> 322

<212> PRT

<213> Artificial Sequence

<220>

<223> Fusion Protein

<400> 46

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

Cys Thr Leu Pro Pro Ser Arg Glu Glu Met 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 Asp Thr Thr Pro Pro
145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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 Ala Arg Gln Gly Glu His Cys Pro Leu Gly Pro Gly Arg Cys
210 215 220

Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala
225 230 235 240

Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly
245 250 255

Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys
260 265 270

Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys
275 280 285

Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr
290 295 300

Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His
305 310 315 320

Cys Ile

<210> 47
<211> 322
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 47

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
 145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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 Ala Arg Gln Gly Glu His Cys Pro Leu Gly Pro Gly Arg Cys
 210 215 220

Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala
 225 230 235 240

Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly
 245 250 255

Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys
 260 265 270

Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys
 275 280 285

Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr
 290 295 300

Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His
 305 310 315 320

Cys Ile

<210> 48
<211> 342
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 48

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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 Gly Gly Gly Gly Gln Gly Gly Gly Gly Gln Gly Gly Gly Gly
210 215 220

Gln Gly Gly Gly Gly Gln Ala Arg Asn Gly Asp His Cys Pro Leu Gly
225 230 235 240

Pro Gly Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp
245 250 255

Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr
260 265 270

Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His
275 280 285

Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro
290 295 300

Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln
305 310 315 320

Lys Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala
325 330 335

Lys Asp Cys His Cys Ile
340

<210> 49
<211> 342
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 49

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
 145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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 Gly Gly Gly Gly Gln Gly Gly Gly Gly Gln Gly Gly Gly Gly
 210 215 220

Gln Gly Gly Gly Gly Gln Ala Arg Gln Gly Asp His Cys Pro Leu Gly
 225 230 235 240

Pro Gly Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp
 245 250 255

Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr
 260 265 270

Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His
 275 280 285

Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro
 290 295 300

Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln
 305 310 315 320

Lys Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala
 325 330 335

Lys Asp Cys His Cys Ile
340

<210> 50
<211> 342
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 50

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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 Gly Gly Gly Gly Gln Gly Gly Gly Gly Gln Gly Gly Gly Gly
210 215 220

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

Pro Gly Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp
245 250 255

Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr
260 265 270

Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His
275 280 285

Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro
290 295 300

Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln
305 310 315 320

Lys Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala
325 330 335

Lys Asp Cys His Cys Ile
340

<210> 51
<211> 332
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 51

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	Glu	Glu	Met	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	Asp	Thr	Thr	Pro	Pro	145	150	155	160
Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Asp	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	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Ala	Arg	Gln	Gly	210	215	220	
Asp	His	Cys	Pro	Leu	Gly	Pro	Gly	Arg	Cys	Cys	Arg	Leu	His	Thr	Val	225	230	235	240
Arg	Ala	Ser	Leu	Glu	Asp	Leu	Gly	Trp	Ala	Asp	Trp	Val	Leu	Ser	Pro	245	250	255	
Arg	Glu	Val	Gln	Val	Thr	Met	Cys	Ile	Gly	Ala	Cys	Pro	Ser	Gln	Phe	260	265	270	
Arg	Ala	Ala	Asn	Met	His	Ala	Gln	Ile	Lys	Thr	Ser	Leu	His	Arg	Leu	275	280	285	
Lys	Pro	Asp	Thr	Val	Pro	Ala	Pro	Cys	Cys	Val	Pro	Ala	Ser	Tyr	Asn	290	295	300	
Pro	Met	Val	Leu	Ile	Gln	Lys	Thr	Asp	Thr	Gly	Val	Ser	Leu	Gln	Thr	305	310	315	320

Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
325 330

<210> 52

<211> 332

<212> PRT

<213> Artificial Sequence

<220>

<223> Fusion Protein

<400> 52

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
145 150 155 160

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

Glu His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg Leu His Thr Val
225 230 235 240

Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro
245 250 255

Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe
260 265 270

Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser Leu His Arg Leu
275 280 285

Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn
290 295 300

Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val Ser Leu Gln Thr
305 310 315 320

Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
325 330

<210> 53
<211> 327
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 53

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
 145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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 Gly Gly Gly Gly Ser Ala Arg Gln Gly Asp His Cys Pro Leu
 210 215 220

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

Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val
 245 250 255

Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met
 260 265 270

His Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val
 275 280 285

Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile
 290 295 300

Gln Lys Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu
 305 310 315 320

Ala Lys Asp Cys His Cys Ile
 325

<210> 54
<211> 327
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 54

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 Glu Glu Met 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 Asp Thr Thr Pro Pro
145 150 155 160

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp 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 Gly Gly Gly Gly Ser Ala Arg Gln Gly Glu His Cys Pro Leu
210 215 220

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

Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val
245 250 255

Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met
260 265 270

His Ala Gln Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val
275 280 285

Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile
290 295 300

Gln Lys Thr Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu
305 310 315 320

Ala Lys Asp Cys His Cys Ile
325

<210> 55

<211> 322

<212> PRT

<213> Artificial Sequence

<220>

<223> Fusion Protein

<400> 55

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	Glu	Glu	Met	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	Asp	Thr	Thr	Pro	Pro	145	150	155
Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Asp	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	Ala	Arg	Gln	Gly	Asp	His	Cys	Pro	Leu	Gly	Pro	Gly	Arg	Cys	210	215	220
Cys	Arg	Leu	His	Thr	Val	Arg	Ala	Ser	Leu	Glu	Asp	Leu	Gly	Trp	Ala	225	230	235
Asp	Trp	Val	Leu	Ser	Pro	Arg	Glu	Val	Gln	Val	Thr	Met	Cys	Ile	Gly	245	250	255
Ala	Cys	Pro	Ser	Gln	Phe	Arg	Ala	Ala	Asn	Met	His	Ala	Gln	Ile	Lys	260	265	270
Thr	Ser	Leu	His	Arg	Leu	Lys	Pro	Asp	Thr	Val	Pro	Ala	Pro	Cys	Cys	275	280	285
Val	Pro	Ala	Ser	Tyr	Asn	Pro	Met	Val	Leu	Ile	Gln	Lys	Thr	Asp	Thr	290	295	300
Gly	Val	Ser	Leu	Gln	Thr	Tyr	Asp	Asp	Leu	Leu	Ala	Lys	Asp	Cys	His	305	310	315

Cys Ile

<210> 56
 <211> 348
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Fusion Protein

<400> 56

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
115 120 125

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

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

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

Tyr Ser Asp Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
180 185 190

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Gly Gly Gly Gly Gln Gly Gly Gly
210 215 220

Gly Gln Gly Gly Gly Gly Gln Gly Gly Gly Gly Gln Ala Arg Gln Gly
225 230 235 240

Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg Leu His Thr Val
245 250 255

Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp Val Leu Ser Pro
260 265 270

Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys Pro Ser Gln Phe
275 280 285

Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser Leu His Arg Leu
290 295 300

Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro Ala Ser Tyr Asn
305 310 315 320

Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val Ser Leu Gln Thr
325 330 335

Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
340 345

<210> 57
<211> 348
<212> PRT
<213> Artificial Sequence

<220>
<223> Fusion Protein

<400> 57

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

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

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

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	100	105	110
Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	115	120	125
Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	130	135	140
Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	145	150	155
Tyr	Asp	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	165	170	175
Tyr	Ser	Asp	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	180	185	190
Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	195	200	205
Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Gly	Gly	Gly	Gly	Gln	Gly	Gly	Gly	210	215	220
Gly	Gln	Gly	Gly	Gly	Gly	Gln	Gly	Gly	Gly	Gly	Gln	Ala	Arg	Gln	Gly	225	230	235
Glu	His	Cys	Pro	Leu	Gly	Pro	Gly	Arg	Cys	Cys	Arg	Leu	His	Thr	Val	245	250	255
Arg	Ala	Ser	Leu	Glu	Asp	Leu	Gly	Trp	Ala	Asp	Trp	Val	Leu	Ser	Pro	260	265	270
Arg	Glu	Val	Gln	Val	Thr	Met	Cys	Ile	Gly	Ala	Cys	Pro	Ser	Gln	Phe	275	280	285
Arg	Ala	Ala	Asn	Met	His	Ala	Gln	Ile	Lys	Thr	Ser	Leu	His	Arg	Leu	290	295	300
Lys	Pro	Asp	Thr	Val	Pro	Ala	Pro	Cys	Cys	Val	Pro	Ala	Ser	Tyr	Asn	305	310	315
Pro	Met	Val	Leu	Ile	Gln	Lys	Thr	Asp	Thr	Gly	Val	Ser	Leu	Gln	Thr	325	330	335
Tyr	Asp	Asp	Leu	Leu	Ala	Lys	Asp	Cys	His	Cys	Ile					340	345	

<210> 58
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 58

Gly Gly Gly Gly Ala
1 5