

UCSF-518WO_SeqList_ST25
SEQUENCE LISTING

<110> Lim, Wendell
Coyle, Scott M.
Gordley, Russell M.
Roybal, Kole T.

<120> MODULAR POLYPEPTIDE LIBRARIES AND METHODS OF MAKING AND USING
SAME

<130> UCSF-518WO

<150> US 62/212,999

<151> 2015-09-01

<160> 132

<170> PatentIn version 3.5

<210> 1

<211> 24

<212> PRT

<213> Artificial Sequence

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<400> 1

Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu
1 5 10 15

Ser Leu Val Ile Thr Leu Tyr Cys
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Leu Gly Leu Leu Val Ala Gly Val Leu Val Leu Leu Val Ser Leu Gly
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Val Ala Ile His Leu Cys Cys

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<400> 3

Ala Leu Ile Val Leu Gly Gly Val Ala Gly Leu Leu Leu Phe Ile Gly
 1 5 10 15

Leu Gly Ile Phe Phe Cys Val Arg Cys
 20 25

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Leu Cys Tyr Leu Leu Asp Gly Ile Leu Phe Ile Tyr Gly Val Ile Leu
 1 5 10 15

Thr Ala Leu Phe Leu Arg Val
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<400> 5

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

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Val Thr Val Ala Phe Ile Ile Phe Trp Val
20 25

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<400> 6

Val Ala Ala Ile Leu Gly Leu Gly Leu Val Leu Gly Leu Leu Gly Pro
1 5 10 15

Leu Ala Ile Leu Leu Ala Leu Tyr Leu Leu
20 25

<210> 7
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<400> 7

Ala Leu Pro Ala Ala Leu Ala Val Ile Ser Phe Leu Leu Gly Leu Gly
1 5 10 15

Leu Gly Val Ala Cys Val Leu Ala
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<220>
<221> MISC_FEATURE

UCSF-518W0_SeqList_ST25

<222> (1)..(5)

<223> This stretch of residues may be repeated.

<400> 8

Gly Ser Gly Gly Ser
1 5

<210> 9

<211> 4

<212> PRT

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<223> Synthetic polypeptide sequence.

<220>

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<222> (1)..(4)

<223> This stretch of residues may be repeated.

<400> 9

Gly Gly Gly Ser
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Gly Gly Ser Gly
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Gly Gly Ser Gly Gly
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<400> 12

Gly Ser Gly Ser Gly
1 5

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<400> 13

Gly Ser Gly Gly Gly
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Gly Gly Gly Ser Gly
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Gly Ser Ser Ser Gly
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<400> 16

acctgcaaca ctccggatca ggatctgggtt cgtgggtgcg cagcaagaga agcagactgc	60
tgacacagcga ctacatgaac atgacccccca gacggcctgg cccaccaga aagcactacc	120
agccttcgcc cctcccagag acttcgccgc ctacagatct ggctccggat caggatccgg	180
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<400> 17

ctccggatca ggatctgggtt cgtgggtgcg cagcaagaga agcagactgc tgcacagcga	60
ctacatgaac atgacccccca gacggcctgg cccaccaga aagcactacc agccttacgc	120
ccctccagag acttcgccgc ctacagatct ggctccggat caggatccgg cagtggtaac	180
acatatgtct gcagatccgg cagtggta	208

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Ser Gly Ser Gly Ser Gly Ser Trp Val Arg Ser Lys Arg Ser Arg Leu
1 5 10 15

Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr
20 25 30

Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr
35 40 45

Arg Ser Gly Ser Gly Ser Gly Ser Gly Ser
50 55

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<400> 19

Arg Cys Arg Glu Arg Arg Arg Asn Glu Arg Leu Arg Arg Glu Ser Val
1 5 10 15

Arg Pro Val

<210> 20

<211> 29

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<400> 20

Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys Gly Ile Gln Asp Thr
1 5 10 15

Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu Glu Thr

20

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<400> 21

Lys Lys Arg His Met Ala Ser Tyr Ser Met Cys Ser Asp Pro Ser Thr
 1 5 10 15

Arg Asp Pro Pro Gly Arg Pro Glu Pro Tyr Val Glu Val Tyr Leu Ile
 20 25 30

<210> 22
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<400> 22

Thr Lys Lys Lys Tyr Ser Ser Ser Val His Asp Pro Asn Gly Glu Tyr
 1 5 10 15

Met Phe Met Arg Ala Val Asn Thr Ala Lys Lys Ser Arg Leu Thr Asp
 20 25 30

Val Thr Leu
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<210> 23
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<400> 23

UCSF-518W0_SeqList_ST25

Met Glu Glu Ser Val Val Arg Pro Ser Val Phe Val Val Asp Gly Gln
1 5 10 15

Thr Asp Ile Pro Phe Thr Arg Leu Gly Arg Ser His Arg Arg Gln Ser
20 25 30

Cys Ser Val
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<400> 24

Ser Leu Ser Lys Met Leu Lys Lys Arg Ser Pro Leu Thr Thr Gly Val
1 5 10 15

Tyr Val Lys Met Pro Pro Thr Glu Pro Glu Cys Glu Lys Gln Phe Gln
20 25 30

Pro Tyr Phe Ile Pro Ile Asn
35

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<400> 25

Ala Arg Thr Gln Ile Lys Lys Leu Cys Ser Trp Arg Asp Lys Asn Ser
1 5 10 15

Ala Ala Cys Val Val Tyr Glu Asp Met Ser His Ser Arg Cys Asn Thr
20 25 30

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Leu Ser Ser Pro Asn Gln Tyr Gln
35 40

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<400> 26

Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe Lys Gln Pro Phe Met
1 5 10 15

Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly Cys Ser Cys Arg Phe
20 25 30

Pro Glu Glu Glu Gly Gly Cys Glu Leu
35 40

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<400> 27

Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn
1 5 10 15

Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr
20 25 30

Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser
35 40

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<400> 28

His	Gln	Arg	Arg	Lys	Tyr	Arg	Ser	Asn	Lys	Gly	Glu	Ser	Pro	Val	Glu
1				5					10					15	

Pro	Ala	Glu	Pro	Cys	His	Tyr	Ser	Cys	Pro	Arg	Glu	Glu	Glu	Gly	Ser
			20					25					30		

Thr	Ile	Pro	Ile	Gln	Glu	Asp	Tyr	Arg	Lys	Pro	Glu	Pro	Ala	Cys	Ser
		35					40					45			

Pro

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Arg	Arg	Gln	Trp	Arg	Pro	Arg	Arg	Phe	Ser	Ala	Leu	Glu	Gln	Gly	Ile
1				5					10					15	

His	Pro	Pro	Gln	Ala	Gln	Ser	Lys	Ile	Glu	Glu	Leu	Glu	Gln	Glu	Pro
			20					25					30		

Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro
		35				40					45				

Glu	Gln	Leu
		50

<210> 30

<211> 54

<212> PRT

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<400> 30

His	Ile	Trp	Gln	Leu	Arg	Ser	Gln	Cys	Met	Trp	Pro	Arg	Glu	Thr	Gln
1				5					10					15	

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

Phe	Pro	Glu	Glu	Glu	Arg	Gly	Glu	Arg	Ser	Ala	Glu	Glu	Lys	Gly	Arg
		35					40					45			

Leu	Gly	Asp	Leu	Trp	Val
	50				

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<400> 31

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

Asp	Thr	Gln	Lys	Ala	Pro	Asn	Asn	Tyr	Arg	Ser	Pro	Ile	Ser	Thr	Ser
		20						25					30		

Gln	Pro	Thr	Asn	Gln	Ser	Met	Asp	Asp	Thr	Arg	Glu	Asp	Ile	Tyr	Val
		35					40					45			

Asn	Tyr	Pro	Thr	Phe	Ser	Arg	Arg	Pro	Lys	Thr	Arg	Val
	50					55					60	

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<400> 32

Lys Lys Val Ala Lys Lys Pro Thr Asn Lys Ala Pro His Pro Lys Gln
1 5 10 15

Glu Pro Gln Glu Ile Asn Phe Pro Asp Asp Leu Pro Gly Ser Asn Thr
20 25 30

Ala Ala Pro Val Gln Glu Thr Leu His Gly Cys Gln Pro Val Thr Gln
35 40 45

Glu Asp Gly Lys Glu Ser Arg Ile Ser Val Gln Glu Arg Gln
50 55 60

<210> 33

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<400> 33

Lys Trp Tyr Ser His Ser Lys Glu Lys Ile Gln Asn Leu Ser Leu Ile
1 5 10 15

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

Gly Ile Arg Ser Glu Glu Asn Ile Tyr Thr Ile Glu Glu Asn Val Tyr
35 40 45

Glu Val Glu Glu Pro Asn Glu Tyr Tyr Cys Tyr Val Ser Ser Arg Gln
50 55 60

Gln Pro Ser Gln Pro Leu Gly Cys Arg Phe Ala Met Pro
65 70 75

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<400> 34

Arg Lys Lys Lys Ala Leu Arg Ile His Ser Val Glu Gly Asp Leu Arg
 1 5 10 15

Arg Lys Ser Ala Gly Gln Glu Glu Trp Ser Pro Ser Ala Pro Ser Pro
 20 25 30

Pro Gly Ser Cys Val Gln Ala Glu Ala Ala Pro Ala Gly Leu Cys Gly
 35 40 45

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

Leu Ser Tyr Arg Ser Leu Gly Asn Cys Ser Phe Phe Thr Glu Thr Gly
 65 70 75 80

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<400> 35

Lys Leu Arg Lys Ala His Val Ile Trp Lys Lys Glu Asn Glu Val Ser
 1 5 10 15

Glu His Thr Leu Glu Ser Tyr Arg Ser Arg Ser Asn Asn Glu Glu Thr
 20 25 30

Ser Ser Glu Glu Lys Asn Gly Gln Ser Ser His Pro Met Arg Cys Met
 35 40 45

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

Asn Val Gln His Ser Lys Leu Glu Glu Lys His Ile Gln Val Pro Glu
65 70 75 80

Ser Ile Val

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<400> 36

Ile Cys Ser Arg Ala Ala Arg Gly Thr Ile Gly Ala Arg Arg Thr Gly
1 5 10 15

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

Tyr Gly Glu Leu Asp Phe Gln Trp Arg Glu Lys Thr Pro Glu Pro Pro
35 40 45

Val Pro Cys Val Pro Glu Gln Thr Glu Tyr Ala Thr Ile Val Phe Pro
50 55 60

Ser Gly Met Gly Thr Ser Ser Pro Ala Arg Arg Gly Ser Ala Asp Gly
65 70 75 80

Pro Arg Ser Ala Gln Pro Leu Arg Pro Glu Asp Gly His Cys Ser Trp
85 90 95

Pro Leu

<210> 37

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His Arg Gln Asn Gln Ile Lys Gln Gly Pro Pro Arg Ser Lys Asp Glu
1 5 10 15

Glu Gln Lys Pro Gln Gln Arg Pro Asp Leu Ala Val Asp Val Leu Glu
20 25 30

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

Glu Thr Asp Thr Ser Ala Leu Ala Ala Gly Ser Ser Gln Glu Val Thr
50 55 60

Tyr Ala Gln Leu Asp His Trp Ala Leu Thr Gln Arg Thr Ala Arg Ala
65 70 75 80

Val Ser Pro Gln Ser Thr Lys Pro Met Ala Glu Ser Ile Thr Tyr Ala
85 90 95

Ala Val Ala Arg His
100

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<211> 107

<212> PRT

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<400> 38

Cys Cys Arg Lys Lys Arg Arg Glu Glu Lys Tyr Glu Lys Glu Val His
1 5 10 15

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

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20

25

30

Ala Arg Ser Tyr Ile Gly Ser Asn His Ser Ser Leu Gly Ser Met Ser
35 40 45

Pro Ser Asn Met Glu Gly Tyr Ser Lys Thr Gln Tyr Asn Gln Val Pro
50 55 60

Ser Glu Asp Phe Glu Arg Thr Pro Gln Ser Pro Thr Leu Pro Pro Ala
65 70 75 80

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

Ile Pro Ala Gln Ser Lys Asp Gly Ser Ile Val
100 105

<210> 39

<211> 114

<212> PRT

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<400> 39

Cys Cys Leu Arg Arg His Gln Gly Lys Gln Asn Glu Leu Ser Asp Thr
1 5 10 15

Ala Gly Arg Glu Ile Asn Leu Val Asp Ala His Leu Lys Ser Glu Gln
20 25 30

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

Gly Ile Tyr Asp Asn Asp Pro Asp Leu Cys Phe Arg Met Gln Glu Gly
50 55 60

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

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

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

Arg Ser

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<400> 40

Thr Lys Arg Lys Lys Gln Arg Ser Arg Arg Asn Asp Glu Glu Leu Glu
1 5 10 15

Thr Arg Ala His Arg Val Ala Thr Glu Glu Arg Gly Arg Lys Pro His
20 25 30

Gln Ile Pro Ala Ser Thr Pro Gln Asn Pro Ala Thr Ser Gln His Pro
35 40 45

Pro Pro Pro Pro Gly His Arg Ser Gln Ala Pro Ser His Arg Pro Pro
50 55 60

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

Pro Ser Gly Thr Gln Val His Gln Gln Lys Gly Pro Pro Leu Pro Arg
85 90 95

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

Ser Pro Ser Ser Asn

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Trp Arg Arg Lys Arg Lys Glu Lys Gln Ser Glu Thr Ser Pro Lys Glu
 1 5 10 15

Phe Leu Thr Ile Tyr Glu Asp Val Lys Asp Leu Lys Thr Arg Arg Asn
 20 25 30

His Glu Gln Glu Gln Thr Phe Pro Gly Gly Gly Ser Thr Ile Tyr Ser
 35 40 45

Met Ile Gln Ser Gln Ser Ser Ala Pro Thr Ser Gln Glu Pro Ala Tyr
 50 55 60

Thr Leu Tyr Ser Leu Ile Gln Pro Ser Arg Lys Ser Gly Ser Arg Lys
 65 70 75 80

Arg Asn His Ser Pro Ser Phe Asn Ser Thr Ile Tyr Glu Val Ile Gly
 85 90 95

Lys Ser Gln Pro Lys Ala Gln Asn Pro Ala Arg Leu Ser Arg Lys Glu
 100 105 110

Leu Glu Asn Phe Asp Val Tyr Ser
 115 120

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<400> 42

Arg Arg Ala Cys Arg Lys Arg Ile Arg Gln Lys Leu His Leu Cys Tyr
1 5 10 15

Pro Val Gln Thr Ser Gln Pro Lys Leu Glu Leu Val Asp Ser Arg Pro
20 25 30

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

Val Ala Glu Glu Arg Gly Leu Met Ser Gln Pro Leu Met Glu Thr Cys
50 55 60

His Ser Val Gly Ala Ala Tyr Leu Glu Ser Leu Pro Leu Gln Asp Ala
65 70 75 80

Ser Pro Ala Gly Gly Pro Ser Ser Pro Arg Asp Leu Pro Glu Pro Arg
85 90 95

Val Ser Thr Glu His Thr Asn Asn Lys Ile Glu Lys Ile Tyr Ile Met
100 105 110

Lys Ala Asp Thr Val Ile Val Gly Thr Val Lys Ala Glu Leu Pro Glu
115 120 125

Gly Arg Gly Leu Ala Gly Pro Ala Glu Pro Glu Leu Glu Glu Glu Leu
130 135 140

Glu Ala Asp His Thr Pro His Tyr Pro Glu Gln Glu Thr Glu Pro Pro
145 150 155 160

Leu Gly Ser Cys Ser Asp Val Met Leu Ser Val Glu Glu Glu Gly Lys
165 170 175

Glu Asp Pro Leu Pro Thr Ala Ala Ser Gly Lys
180 185

<210> 43

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<211> 108

<212> PRT

<213> Artificial Sequence

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<400> 43

Thr Tyr Arg His Cys Trp Pro His Lys Pro Leu Val Thr Ala Asp Glu
1 5 10 15

Ala Gly Met Glu Ala Leu Thr Pro Pro Pro Ala Thr His Leu Ser Pro
20 25 30

Leu Asp Ser Ala His Thr Leu Leu Ala Pro Pro Asp Ser Ser Glu Lys
35 40 45

Ile Cys Thr Val Gln Leu Val Gly Asn Ser Trp Thr Pro Gly Tyr Pro
50 55 60

Glu Thr Gln Glu Ala Leu Cys Pro Gln Val Thr Trp Ser Trp Asp Gln
65 70 75 80

Leu Pro Ser Arg Ala Leu Gly Pro Ala Ala Ala Pro Thr Leu Ser Pro
85 90 95

Glu Ser Pro Ala Gly Ser Pro Ala Met Met Leu Gln
100 105

<210> 44

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<400> 44

Ala Leu Tyr Leu Leu Arg Arg Asp Gln Arg Leu Pro Pro Asp Ala His
1 5 10 15

Lys Pro Pro Gly Gly Gly Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln

20

25

30

Ala Asp Ala His Ser Thr Leu Ala Lys Ile
 35 40

<210> 45

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<400> 45

Met Gly Trp Ile Arg Gly Arg Arg Ser Arg His Ser Trp Glu Met Ser
 1 5 10 15

Glu Phe His Asn Tyr Asn Leu Asp Leu Lys Lys Ser Asp Phe Ser Thr
 20 25 30

Arg Trp Gln Lys Gln Arg Cys Pro Val Val Lys Ser Lys Cys Arg Glu
 35 40 45

Asn Ala Ser
 50

<210> 46

<211> 48

<212> PRT

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<400> 46

Lys Lys Tyr Phe Phe Lys Lys Glu Val Gln Gln Leu Ser Val Ser Phe
 1 5 10 15

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

Gln Ala Glu Asp Asn Ile Tyr Ile Glu Asn Ser Leu Tyr Ala Thr Asp

35

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<400> 47

Ser Gly Phe Leu Gln Glu Lys Val Trp Val Met Leu Val Thr Ser Leu
1 5 10 15

Val Ala Leu Gln Ala Leu
20

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<400> 48

Ser Trp Arg Arg Arg Gln Arg Arg Leu Arg Gly Ala Ser Ser Ala Glu
1 5 10 15

Ala Pro Asp Gly Asp Lys Asp Ala Pro Glu Pro Leu Asp Lys Val Ile
20 25 30

Ile Leu Ser Pro Gly Ile Ser Asp Ala Thr Ala Pro Ala Trp Pro Pro
35 40 45

Pro Gly Glu Asp Pro Gly Thr Thr Pro Pro Gly His Ser Val Pro Val
50 55 60

Pro Ala Thr Glu Leu Gly Ser Thr Glu Leu Val Thr Thr Lys Thr Ala
65 70 75 80

Gly Pro Glu Gln Gln

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<220>
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<400> 49

Ala Cys Phe Leu Lys Lys Arg Gly Asp Pro Cys Ser Cys Gln Pro Arg
 1 5 10 15

Ser Arg Pro Arg Gln Ser Pro Ala Lys Ser Ser Gln Asp His Ala Met
 20 25 30

Glu Ala Gly Ser Pro Val Ser Thr Ser Pro Glu Pro Val Glu Thr Cys
 35 40 45

Ser Phe Cys Phe Pro Glu Cys Arg Ala Pro Thr Gln Glu Ser Ala Val
 50 55 60

Thr Pro Gly Thr Pro Asp Pro Thr Cys Ala Gly Arg Trp Gly Cys His
 65 70 75 80

Thr Arg Thr Thr Val Leu Gln Pro Cys Pro His Ile Pro Asp Ser Gly
 85 90 95

Leu Gly Ile Val Cys Val Pro Ala Gln Glu Gly Gly Pro Gly Ala
 100 105 110

<210> 50
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<400> 50

Met Ala Glu Ala Ile Thr Tyr Ala Asp Leu Arg Phe Val Lys Ala Pro

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

Gln Val Gly Asp Tyr Glu Asn Val Ile Pro Asp Phe Pro Glu Asp Glu
100 105 110

Gly Ile His Tyr Ser Glu Leu Ile Gln Phe Gly Val Gly Glu Arg Pro
115 120 125

Gln Ala Gln Glu Asn Val Asp Tyr Val Ile Leu Lys His
130 135 140

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<212> PRT

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<400> 52

Arg Lys Trp Cys Gln Tyr Gln Lys Glu Ile Met Glu Arg Pro Pro Pro
1 5 10 15

Phe Lys Pro Pro Pro Pro Pro Ile Lys Tyr Thr Cys Ile Gln Glu Pro
20 25 30

Asn Glu Ser Asp Leu Pro Tyr His Glu Met Glu Thr Leu
35 40 45

<210> 53

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<212> PRT

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<400> 53

Leu Arg Lys Arg Arg Asp Ser Leu Ser Leu Ser Thr Gln Arg Thr Gln
1 5 10 15

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Gly Pro Ala Glu Ser Ala Arg Asn Leu Glu Tyr Val Ser Val Ser Pro
20 25 30

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

Glu Ile Trp Thr Pro Arg Glu Asn Asp Thr Ile Thr Ile Tyr Ser Thr
50 55 60

Ile Asn His Ser Lys Glu Ser Lys Pro Thr Phe Ser Arg Ala Thr Ala
65 70 75 80

Leu Asp Asn Val

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<212> PRT

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<400> 54

Trp Phe Leu Lys Arg Glu Arg Gln Glu Glu Tyr Ile Glu Glu Lys Lys
1 5 10 15

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

Glu Asn Thr Glu Tyr Asp Thr Ile Pro His Thr Asn Arg Thr Ile Leu
35 40 45

Lys Glu Asp Pro Ala Asn Thr Val Tyr Ser Thr Val Glu Ile Pro Lys
50 55 60

Lys Met Glu Asn Pro His Ser Leu Leu Thr Met Pro Asp Thr Pro Arg
65 70 75 80

Leu Phe Ala Tyr Glu Asn Val Ile

<210> 55
 <211> 82
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide sequence.

<400> 55

Lys Thr His Arg Arg Lys Ala Ala Arg Thr Ala Val Gly Arg Asn Asp
 1 5 10 15

Thr His Pro Thr Thr Gly Ser Ala Ser Pro Lys His Gln Lys Lys Ser
 20 25 30

Lys Leu His Gly Pro Thr Glu Thr Ser Ser Cys Ser Gly Ala Ala Pro
 35 40 45

Thr Val Glu Met Asp Glu Glu Leu His Tyr Ala Ser Leu Asn Phe His
 50 55 60

Gly Met Asn Pro Ser Lys Asp Thr Ser Thr Glu Tyr Ser Glu Val Arg
 65 70 75 80

Thr Gln

<210> 56
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide sequence.

<400> 56

Met Thr Asp Ser Val Ile Tyr Ser Met Leu Glu Leu Pro Thr Ala Thr
 1 5 10 15

Gln Ala Gln Asn Asp Tyr Gly Pro Gln Gln Lys Ser Ser Ser Ser Arg

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20

25

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Pro Ser Cys Ser Cys Leu
35

<210> 57

<211> 45

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 57

Met Asp Gln Gln Ala Ile Tyr Ala Glu Leu Asn Leu Pro Thr Asp Ser
1 5 10 15

Gly Pro Glu Ser Ser Ser Pro Ser Ser Leu Pro Arg Asp Val Cys Gln
20 25 30

Gly Ser Pro Trp His Gln Phe Ala Leu Lys Leu Ser Cys
35 40 45

<210> 58

<211> 168

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 58

Leu Arg His Arg Arg Gln Gly Lys His Trp Thr Ser Thr Gln Arg Lys
1 5 10 15

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

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

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

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50

55

60

Met Asp Thr Arg Ser Pro His Asp Glu Asp Pro Gln Ala Val Thr Tyr
65 70 75 80

Ala Glu Val Lys His Ser Arg Pro Arg Arg Glu Met Ala Ser Pro Pro
85 90 95

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

Glu Asp Arg Gln Met Asp Thr Glu Ala Ala Ala Ser Glu Ala Pro Gln
115 120 125

Asp Val Thr Tyr Ala Gln Leu His Ser Leu Thr Leu Arg Arg Glu Ala
130 135 140

Thr Glu Pro Pro Pro Ser Gln Glu Gly Pro Ser Pro Ala Val Pro Ser
145 150 155 160

Ile Tyr Ala Thr Leu Ala Ile His
165

<210> 59

<211> 83

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 59

Arg Trp Cys Ser Asn Lys Lys Asn Ala Ala Val Met Asp Gln Glu Ser
1 5 10 15

Ala Gly Asn Arg Thr Ala Asn Ser Glu Asp Ser Asp Glu Gln Asp Pro
20 25 30

Gln Glu Val Thr Tyr Thr Gln Leu Asn His Cys Val Phe Thr Gln Arg
35 40 45

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Lys Ile Thr Arg Pro Ser Gln Arg Pro Lys Thr Pro Pro Thr Asp Ile
50 55 60

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

Ser Cys Pro

<210> 60

<211> 84

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 60

His Leu Trp Cys Ser Asn Lys Lys Asn Ala Ala Val Met Asp Gln Glu
1 5 10 15

Pro Ala Gly Asn Arg Thr Ala Asn Ser Glu Asp Ser Asp Glu Gln Asp
20 25 30

Pro Glu Glu Val Thr Tyr Ala Gln Leu Asp His Cys Val Phe Thr Gln
35 40 45

Arg Lys Ile Thr Arg Pro Ser Gln Arg Pro Lys Thr Pro Pro Thr Asp
50 55 60

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

Val Ser Cys Pro

<210> 61

<211> 10

<212> PRT

<213> Artificial Sequence

UCSF-518W0_SeqList_ST25

<220>

<223> Synthetic polypeptide sequence.

<400> 61

Met	Ala	Val	Phe	Lys	Thr	Thr	Leu	Trp	Arg
1				5				10	

<210> 62

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 62

Lys	Gly	Ser	Gln	Arg	Val	Pro	Glu	Glu	Pro	Gly	Glu	Gln	Pro	Ile	Tyr
1				5					10					15	

Met	Asn	Phe	Ser	Glu	Pro	Leu	Thr	Lys	Asp	Met	Ala	Thr
				20				25				

<210> 63

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 63

Val	Asn	Arg	Pro	Gln	Trp	Ala	Pro	Pro	Gly	Arg
1				5					10	

<210> 64

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 64

Val Thr Leu Arg Ser Phe Val Pro

1 5

<210> 65
 <211> 35
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide sequence.

<400> 65

Ala Ala Trp His Gly Gln Lys Pro Gly Thr His Pro Pro Ser Glu Leu
 1 5 10 15

Asp Cys Gly His Asp Pro Gly Tyr Gln Leu Gln Thr Leu Pro Gly Leu
 20 25 30

Arg Asp Thr
 35

<210> 66
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide sequence.

<400> 66

Gln His Ser Gln Arg Ser Pro Pro Arg Cys Ser Gln Glu Ala Asn Ser
 1 5 10 15

Arg Lys Asp Asn Ala Pro Phe Arg Val Val Glu Pro Trp Glu Gln Ile
 20 25 30

<210> 67
 <211> 168
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide sequence.

<400> 67

UCSF-518W0_SeqList_ST25

Gln His Trp Arg Gln Gly Lys His Arg Thr Leu Ala Gln Arg Gln Ala
1 5 10 15

Asp Phe Gln Arg Pro Pro Gly Ala Ala Glu Pro Glu Pro Lys Asp Gly
20 25 30

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

Phe Cys Ala Ala Val Lys Asn Thr Gln Pro Glu Asp Gly Val Glu Met
50 55 60

Asp Thr Arg Gln Ser Pro His Asp Glu Asp Pro Gln Ala Val Thr Tyr
65 70 75 80

Ala Lys Val Lys His Ser Arg Pro Arg Arg Glu Met Ala Ser Pro Pro
85 90 95

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

Glu Asp Arg Gln Met Asp Thr Glu Ala Ala Ala Ser Glu Ala Pro Gln
115 120 125

Asp Val Thr Tyr Ala Gln Leu His Ser Phe Thr Leu Arg Gln Lys Ala
130 135 140

Thr Glu Pro Pro Pro Ser Gln Glu Gly Ala Ser Pro Ala Glu Pro Ser
145 150 155 160

Val Tyr Ala Thr Leu Ala Ile His
165

<210> 68

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

UCSF-518W0_SeqList_ST25

<400> 68

Leu Arg His Arg Arg Gln Gly Lys His Trp Thr Ser Thr Gln Arg Lys
1 5 10 15

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

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

Asn Leu Tyr Ala Ala Val Lys Asp Thr Gln Pro Glu Asp Gly Val Glu
50 55 60

Met Asp Thr Arg Ala Ala Ala Ser Glu Ala Pro Gln Asp Val Thr Tyr
65 70 75 80

Ala Gln Leu His Ser Leu Thr Leu Arg Arg Lys Ala Thr Glu Pro Pro
85 90 95

Pro Ser Gln Glu Arg Glu Pro Pro Ala Glu Pro Ser Ile Tyr Ala Thr
100 105 110

Leu Ala Ile His
115

<210> 69

<211> 128

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 69

Met Ala Lys Arg Lys Gln Gly Asn Arg Leu Gly Val Cys Gly Arg Phe
1 5 10 15

Leu Ser Ser Arg Val Ser Gly Met Asn Pro Ser Ser Val Val His His
20 25 30

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Val Ser Asp Ser Gly Pro Ala Ala Glu Leu Pro Leu Asp Val Pro His
35 40 45

Ile Arg Leu Asp Ser Pro Pro Ser Phe Asp Asn Thr Thr Tyr Thr Ser
50 55 60

Leu Pro Leu Asp Ser Pro Ser Gly Lys Pro Ser Leu Pro Ala Pro Ser
65 70 75 80

Ser Leu Pro Pro Leu Pro Pro Lys Val Leu Val Cys Ser Lys Pro Val
85 90 95

Thr Tyr Ala Thr Val Ile Phe Pro Gly Gly Asn Lys Gly Gly Gly Thr
100 105 110

Ser Cys Gly Pro Ala Gln Asn Pro Pro Asn Asn Gln Thr Pro Ser Ser
115 120 125

<210> 70

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 70

Lys Val Asn Gly Cys Arg Lys Tyr Lys Leu Asn Lys Thr Glu Ser Thr
1 5 10 15

Pro Val Val Glu Glu Asp Glu Met Gln Pro Tyr Ala Ser Tyr Thr Glu
20 25 30

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

Ala Leu Gln Ser Glu Val Asp Thr Asp Leu His Thr Leu
50 55 60

<210> 71

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<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 71

Arg Met Phe Gln Lys Trp Ile Lys Ala Gly Asp His Ser Glu Leu Ser
1 5 10 15

Gln Asn Pro Lys Gln Ala Ala Thr Gln Ser Glu Leu His Tyr Ala Asn
20 25 30

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

Glu Val Glu Val Glu Tyr Ser Thr Val Ala Ser Pro Arg Glu Glu Leu
50 55 60

His Tyr Ala Ser Val Val Phe Asp Ser Asn Thr Asn Arg Ile Ala Ala
65 70 75 80

Gln Arg Pro Arg Glu Glu Glu Pro Asp Ser Asp Tyr Ser Val Ile Arg
85 90 95

Lys Thr

<210> 72

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 72

Trp Arg Met Met Lys Tyr Gln Gln Lys Ala Ala Gly Met Ser Pro Glu
1 5 10 15

Gln Val Leu Gln Pro Leu Glu Gly Asp Leu Cys Tyr Ala Asp Leu Thr

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20

25

30

Leu Gln Leu Ala Gly Thr Ser Pro Gln Lys Ala Thr Thr Lys Leu Ser
35 40 45

Ser Ala Gln Val Asp Gln Val Glu Val Glu Tyr Val Thr Met Ala Ser
50 55 60

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

Asp Gln Glu Pro Thr Tyr Cys Asn Met Gly His Leu Ser Ser His Leu
85 90 95

Pro Gly Arg Gly Pro Glu Glu Pro Thr Glu Tyr Ser Thr Ile Ser Arg
100 105 110

Pro

<210> 73

<211> 37

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 73

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

Glu Glu Gln Leu Arg Gly Leu Gly Phe Arg Gln Thr Arg Gly Tyr Lys
20 25 30

Ser Leu Ala Gly Cys
35

<210> 74

<211> 29

<212> PRT

UCSF-518W0_SeqList_ST25

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 74

Arg	Lys	Ser	Ser	Gly	Gly	Lys	Gly	Gly	Ser	Tyr	Ser	Gln	Ala	Ala	Cys
1				5					10					15	

Ser	Asp	Ser	Ala	Gln	Gly	Ser	Asp	Val	Ser	Leu	Thr	Ala
			20					25				

<210> 75

<211> 95

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 75

Leu	Pro	Lys	Tyr	Lys	Thr	Arg	Lys	Ala	Met	Arg	Asn	Asn	Val	Pro	Arg
1				5					10					15	

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

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

Cys	Val	Ser	Thr	Ala	Gln	Asp	Glu	Ala	Lys	His	Ser	Gln	Glu	Leu	Gln
	50					55					60				

Tyr	Ala	Thr	Pro	Val	Phe	Gln	Glu	Val	Ala	Pro	Arg	Glu	Gln	Glu	Ala
65					70					75				80	

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

<210> 76

<211> 178

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic polypeptide sequence.

<400> 76

Arg Arg Arg His Arg Gly Lys Phe Arg Lys Asp Val Gln Lys Glu Lys
 1 5 10 15

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

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

Leu Tyr Ala Ser Val Glu Asp Met Gln Thr Glu Asp Gly Val Glu Leu
 50 55 60

Asn Ser Trp Thr Pro Pro Glu Glu Asp Pro Gln Gly Glu Thr Tyr Ala
 65 70 75 80

Gln Val Lys Pro Ser Arg Leu Arg Lys Ala Gly His Val Ser Pro Ser
 85 90 95

Val Met Ser Arg Glu Gln Leu Asn Thr Glu Tyr Glu Gln Ala Glu Glu
 100 105 110

Gly Gln Gly Ala Asn Asn Gln Ala Ala Glu Ser Gly Glu Ser Gln Asp
 115 120 125

Val Thr Tyr Ala Gln Leu Cys Ser Arg Thr Leu Arg Gln Gly Ala Ala
 130 135 140

Ala Ser Pro Leu Ser Gln Ala Gly Glu Ala Pro Glu Glu Pro Ser Val
 145 150 155 160

Tyr Ala Thr Leu Ala Ala Ala Arg Pro Glu Ala Val Pro Lys Asp Met
 165 170 175

Glu Gln

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<210> 77
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic polypeptide sequence.

<400> 77

Ser Ala Gly Ser Ala Gly Ser Ala Gly Ser Ala Gly Ser Ala Gly Ser
 1 5 10 15

Ala Gly Ser Ala Gly Ser Ala Gly Ser Ala Gly Ser Ala Gly Ser Ala
 20 25 30

Gly Ser Ala Gly Ser Ala Gly Ser Ala Gly
 35 40

<210> 78
 <211> 108
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 78

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

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
 20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
 35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
 50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp

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Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu
100 105

<220>
<223> synthetic polypeptide

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

Cys Gly Asp Ile His Gly Gln Phe Phe Asp Leu Met Lys Leu Phe Glu
35 40 45

Val	Asp	Arg	Gly	Tyr	Phe	Ser	Ile	Glu	Cys	Val	Leu	Tyr	Leu	Trp	Ala
65					70					75					80

Glu Cys Arg His Leu Thr Glu Tyr Phe Thr Phe Lys Gln Glu Cys Lys
100 105 110

Ile Lys Tyr Ser Glu Arg Val Tyr Asp Ala Cys Met Asp Ala Phe Asp
115 120 125

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Cys Leu Pro Leu Ala Ala Leu Met Asn Gln Gln Phe Leu Cys Val His
130 135 140

Gly Gly Leu Ser Pro Glu Ile Asn Thr Leu Asp Asp Ile Arg Lys Leu
145 150 155 160

Asp Arg Phe Lys Glu Pro Pro Ala Tyr Gly Pro Met Cys Asp Ile Leu
165 170 175

Trp Ser Asp Pro Leu Glu Asp Phe Gly Asn Glu Lys Thr Gln Glu His
180 185 190

Phe Thr His Asn Thr Val Arg Gly Cys Ser Tyr Phe Tyr Ser Tyr Pro
195 200 205

Ala Val Cys Glu Phe Leu Gln His Asn Asn Leu Leu Ser Ile Leu Arg
210 215 220

Ala His Glu Ala Gln Asp Ala Gly Tyr Arg Met Tyr Arg Lys Ser Gln
225 230 235 240

Thr Thr Gly Phe Pro Ser Leu Ile Thr Ile Phe Ser Ala Pro Asn Tyr
245 250 255

Leu Asp Val Tyr Asn Asn Lys Ala Ala Val Leu Lys Tyr Glu Asn Asn
260 265 270

Val Met Asn Ile Arg Gln Phe Asn Cys Ser Pro His Pro Tyr Trp Leu
275 280 285

Pro Asn Phe Met
290

<210> 80
<211> 165
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

UCSF-518W0_SeqList_ST25

<400> 80

Met Val Asn Pro Thr Val Phe Phe Asp Ile Ala Val Asp Gly Glu Pro
1 5 10 15

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

Ala Glu Asn Phe Arg Ala Leu Ser Thr Gly Glu Lys Gly Phe Gly Tyr
35 40 45

Lys Gly Ser Cys Phe His Arg Ile Ile Pro Gly Phe Met Cys Gln Gly
50 55 60

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

Glu Lys Phe Glu Asp Glu Asn Phe Ile Leu Lys His Thr Gly Pro Gly
85 90 95

Ile Leu Ser Met Ala Asn Ala Gly Pro Asn Thr Asn Gly Ser Gln Phe
100 105 110

Phe Ile Cys Thr Ala Lys Thr Glu Trp Leu Asp Gly Lys His Val Val
115 120 125

Phe Gly Lys Val Lys Glu Gly Met Asn Ile Val Glu Ala Met Glu Arg
130 135 140

Phe Gly Ser Arg Asn Gly Lys Thr Ser Lys Lys Ile Thr Ile Ala Asp
145 150 155 160

Cys Gly Gln Leu Glu
165

<210> 81

<211> 94

<212> PRT

<213> Artificial Sequence

UCSF-518W0_SeqList_ST25

<220>

<223> synthetic polypeptide

<400> 81

Met Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser
1 5 10 15

Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu
20 25 30

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

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

Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Leu Gln
65 70 75 80

Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser Lys
85 90

<210> 82

<211> 804

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 82

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

Asp Ala Val Arg Lys Arg Pro Gly Met Tyr Ile Gly Asp Thr Asp Asp
20 25 30

Gly Thr Gly Leu His His Met Val Phe Glu Val Val Asp Asn Ala Ile
35 40 45

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

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50

55

60

Ala Asp Asn Ser Val Ser Val Gln Asp Asp Gly Arg Gly Ile Pro Thr
 65 70 75 80

Gly Ile His Pro Glu Glu Gly Val Ser Ala Ala Glu Val Ile Met Thr
 85 90 95

Val Leu His Ala Gly Gly Lys Phe Asp Asp Asn Ser Tyr Lys Val Ser
 100 105 110

Gly Gly Leu His Gly Val Gly Val Ser Val Val Asn Ala Leu Ser Gln
 115 120 125

Lys Leu Glu Leu Val Ile Gln Arg Glu Gly Lys Ile His Arg Gln Ile
 130 135 140

Tyr Glu His Gly Val Pro Gln Ala Pro Leu Ala Val Thr Gly Glu Thr
 145 150 155 160

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

Thr Asn Val Thr Glu Phe Glu Tyr Glu Ile Leu Ala Lys Arg Leu Arg
 180 185 190

Glu Leu Ser Phe Leu Asn Ser Gly Val Ser Ile Arg Leu Arg Asp Lys
 195 200 205

Arg Asp Gly Lys Glu Asp His Phe His Tyr Glu Gly Gly Ile Lys Ala
 210 215 220

Phe Val Glu Tyr Leu Asn Lys Asn Lys Thr Pro Ile His Pro Asn Ile
 225 230 235 240

Phe Tyr Phe Ser Thr Glu Lys Asp Gly Ile Gly Val Glu Val Ala Leu
 245 250 255

Gln Trp Asn Asp Gly Phe Gln Glu Asn Ile Tyr Cys Phe Thr Asn Asn

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260

265

270

Ile Pro Gln Arg Asp Gly Gly Thr His Leu Ala Gly Phe Arg Ala Ala
 275 280 285

Met Thr Arg Thr Leu Asn Ala Tyr Met Asp Lys Glu Gly Tyr Ser Lys
 290 295 300

Lys Ala Lys Val Ser Ala Thr Gly Asp Asp Ala Arg Glu Gly Leu Ile
 305 310 315 320

Ala Val Val Ser Val Lys Val Pro Asp Pro Lys Phe Ser Ser Gln Thr
 325 330 335

Lys Asp Lys Leu Val Ser Ser Glu Val Lys Ser Ala Val Glu Gln Gln
 340 345 350

Met Asn Glu Leu Leu Ala Glu Tyr Leu Leu Glu Asn Pro Thr Asp Ala
 355 360 365

Lys Ile Val Val Gly Lys Ile Ile Asp Ala Ala Arg Ala Arg Glu Ala
 370 375 380

Ala Arg Arg Ala Arg Glu Met Thr Arg Arg Lys Gly Ala Leu Asp Leu
 385 390 395 400

Ala Gly Leu Pro Gly Lys Leu Ala Asp Cys Gln Glu Arg Asp Pro Ala
 405 410 415

Leu Ser Glu Leu Tyr Leu Val Glu Gly Asp Ser Ala Gly Gly Ser Ala
 420 425 430

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

Lys Ile Leu Asn Val Glu Lys Ala Arg Phe Asp Lys Met Leu Ser Ser
 450 455 460

Gln Glu Val Ala Thr Leu Ile Thr Ala Leu Gly Cys Gly Ile Gly Arg

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465		470		475		480									
Asp	Glu	Tyr	Asn	Pro	Asp	Lys	Leu	Arg	Tyr	His	Ser	Ile	Ile	Ile	Met
			485						490					495	
Thr	Asp	Ala	Asp	Val	Asp	Gly	Ser	His	Ile	Arg	Thr	Leu	Leu	Leu	Thr
			500					505					510		
Phe	Phe	Tyr	Arg	Gln	Met	Pro	Glu	Ile	Val	Glu	Arg	Gly	His	Val	Tyr
		515					520					525			
Ile	Ala	Gln	Pro	Pro	Leu	Tyr	Lys	Val	Lys	Lys	Gly	Lys	Gln	Glu	Gln
	530					535					540				
Tyr	Ile	Lys	Asp	Asp	Glu	Ala	Met	Asp	Gln	Tyr	Gln	Ile	Ser	Ile	Ala
545					550					555					560
Leu	Asp	Gly	Ala	Thr	Leu	His	Thr	Asn	Ala	Ser	Ala	Pro	Ala	Leu	Ala
				565					570					575	
Gly	Glu	Ala	Leu	Glu	Lys	Leu	Val	Ser	Glu	Tyr	Asn	Ala	Thr	Gln	Lys
			580						585					590	
Met	Ile	Asn	Arg	Met	Glu	Arg	Arg	Tyr	Pro	Lys	Ala	Met	Leu	Lys	Glu
		595					600					605			
Leu	Ile	Tyr	Gln	Pro	Thr	Leu	Thr	Glu	Ala	Asp	Leu	Ser	Asp	Glu	Gln
	610					615					620				
Thr	Val	Thr	Arg	Trp	Val	Asn	Ala	Leu	Val	Ser	Glu	Leu	Asn	Asp	Lys
625					630					635					640
Glu	Gln	His	Gly	Ser	Gln	Trp	Lys	Phe	Asp	Val	His	Thr	Asn	Ala	Glu
				645					650					655	
Gln	Asn	Leu	Phe	Glu	Pro	Ile	Val	Arg	Val	Arg	Thr	His	Gly	Val	Asp
			660					665					670		
Thr	Asp	Tyr	Pro	Leu	Asp	His	Glu	Phe	Ile	Thr	Gly	Gly	Glu	Tyr	Arg

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680 685

675

Arg Ile Cys Thr Leu Gly Glu Lys Leu Arg Gly Leu Leu Glu Glu Asp
690 695 700

Ala Phe Ile Glu Arg Gly Glu Arg Arg Gln Pro Val Ala Ser Phe Glu
705 710 715 720

Gln Ala Leu Asp Trp Leu Val Lys Glu Ser Arg Arg Gly Leu Ser Ile
725 730 735

Gln Arg Tyr Lys Gly Leu Gly Glu Met Asn Pro Glu Gln Leu Trp Glu
740 745 750

Thr Thr Met Asp Pro Glu Ser Arg Arg Met Leu Arg Val Thr Val Lys
755 760 765

Asp Ala Ile Ala Ala Asp Gln Leu Phe Thr Thr Leu Met Gly Asp Ala
770 775 780

Val Glu Pro Arg Arg Ala Phe Ile Glu Glu Asn Ala Leu Lys Ala Ala
785 790 795 800

Asn Ile Asp Ile

<210> 83
<211> 187
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 83

Met Val Gly Ser Leu Asn Cys Ile Val Ala Val Ser Gln Asn Met Gly
1 5 10 15

Ile Gly Lys Asn Gly Asp Leu Pro Trp Pro Pro Leu Arg Asn Glu Phe
20 25 30

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Arg Tyr Phe Gln Arg Met Thr Thr Thr Ser Ser Val Glu Gly Lys Gln
35 40 45

Asn Leu Val Ile Met Gly Lys Lys Thr Trp Phe Ser Ile Pro Glu Lys
50 55 60

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

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

Ala Leu Lys Leu Thr Glu Gln Pro Glu Leu Ala Asn Lys Val Asp Met
100 105 110

Val Trp Ile Val Gly Gly Ser Ser Val Tyr Lys Glu Ala Met Asn His
115 120 125

Pro Gly His Leu Lys Leu Phe Val Thr Arg Ile Met Gln Asp Phe Glu
130 135 140

Ser Asp Thr Phe Phe Pro Glu Ile Asp Leu Glu Lys Tyr Lys Leu Leu
145 150 155 160

Pro Glu Tyr Pro Gly Val Leu Ser Asp Val Gln Glu Glu Lys Gly Ile
165 170 175

Lys Tyr Lys Phe Glu Val Tyr Glu Lys Asn Asp
180 185

<210> 84
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 84

Met Ala Ser Arg Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly

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

<210> 85
 <211> 183
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> synthetic polypeptide
 <400> 85

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

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

Ser Gly Leu Pro Ala Thr Lys Ser Thr Glu Val Leu Glu Ile Leu Asp
85 90 95

Asp Asn Glu His Ile Leu Gly Ile Arg Ile Val Gly Gly Asp His Arg
100 105 110

Leu Lys Asn Tyr Ser Ser Thr Ile Ser Leu His Ser Glu Thr Ile Asp
115 120 125

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

Glu Gly Asn Thr Lys Glu Glu Thr Cys Phe Phe Val Glu Ala Leu Ile
145 150 155 160

Gln Cys Asn Leu Asn Ser Leu Ala Asp Val Thr Glu Arg Leu Gln Ala
165 170 175

Glu Ser Met Glu Lys Lys Ile
180

<210> 86
<211> 161
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 86

Met Glu Thr Ser Gln Lys Tyr His Thr Cys Gly Ser Thr Leu Val Gln
1 5 10 15

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

Asp Asn Pro Gln Ala Tyr Lys Gln Phe Val Lys Thr Cys Asn Leu Ser

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40 45

35

Ser Gly Asp Gly Gly Glu Gly Ser Val Arg Glu Val Thr Val Val Ser
50 55 60

Gly Leu Pro Ala Glu Phe Ser Arg Glu Arg Leu Asp Glu Leu Asp Asp
65 70 75 80

Glu Ser His Val Met Met Ile Ser Ile Ile Gly Gly Asp His Arg Leu
85 90 95

Val Asn Tyr Arg Ser Lys Thr Met Ala Phe Val Ala Ala Asp Thr Glu
100 105 110

Glu Lys Thr Val Val Val Glu Ser Tyr Val Val Asp Val Pro Glu Gly
115 120 125

Asn Ser Glu Glu Glu Thr Thr Ser Phe Ala Asp Thr Ile Val Gly Phe
130 135 140

Asn Leu Lys Ser Leu Ala Lys Leu Ser Glu Arg Val Ala His Leu Lys
145 150 155 160

Leu

<210> 87
<211> 159
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 87

Met Lys Thr Ser Gln Glu Gln His Val Cys Gly Ser Thr Val Val Gln
1 5 10 15

Thr Ile Asn Ala Pro Leu Pro Leu Val Trp Ser Ile Leu Arg Arg Phe
20 25 30

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Asp Asn Pro Lys Thr Phe Lys His Phe Val Lys Thr Cys Lys Leu Arg
35 40 45

Ser Gly Asp Gly Gly Glu Gly Ser Val Arg Glu Val Thr Val Val Ser
50 55 60

Asp Leu Pro Ala Ser Phe Ser Leu Glu Arg Leu Asp Glu Leu Asp Asp
65 70 75 80

Glu Ser His Val Met Val Ile Ser Ile Ile Gly Gly Asp His Arg Leu
85 90 95

Val Asn Tyr Gln Ser Lys Thr Thr Val Phe Val Ala Ala Glu Glu Glu
100 105 110

Lys Thr Val Val Val Glu Ser Tyr Val Val Asp Val Pro Glu Gly Asn
115 120 125

Thr Glu Glu Glu Thr Thr Leu Phe Ala Asp Thr Ile Val Gly Cys Asn
130 135 140

Leu Arg Ser Leu Ala Lys Leu Ser Glu Lys Met Met Glu Leu Thr
145 150 155

<210> 88
<211> 164
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 88

Met Glu Ser Ser Lys Gln Lys Arg Cys Arg Ser Ser Val Val Glu Thr
1 5 10 15

Ile Glu Ala Pro Leu Pro Leu Val Trp Ser Ile Leu Arg Ser Phe Asp
20 25 30

Lys Pro Gln Ala Tyr Gln Arg Phe Val Lys Ser Cys Thr Met Arg Ser

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 40 45

35

Gly Gly Gly Gly Gly Lys Gly Gly Glu Gly Lys Gly Ser Val Arg Asp
 50 55 60

Val Thr Leu Val Ser Gly Phe Pro Ala Asp Phe Ser Thr Glu Arg Leu
 65 70 75 80

Glu Glu Leu Asp Asp Glu Ser His Val Met Val Val Ser Ile Ile Gly
 85 90 95

Gly Asn His Arg Leu Val Asn Tyr Lys Ser Lys Thr Lys Val Val Ala
 100 105 110

Ser Pro Glu Asp Met Ala Lys Lys Thr Val Val Val Glu Ser Tyr Val
 115 120 125

Val Asp Val Pro Glu Gly Thr Ser Glu Glu Asp Thr Ile Phe Phe Val
 130 135 140

Asp Asn Ile Ile Arg Tyr Asn Leu Thr Ser Leu Ala Lys Leu Thr Lys
 145 150 155 160

Lys Met Met Lys

<210> 89
 <211> 221
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 89

Met Ala Asn Ser Glu Ser Ser Ser Ser Pro Val Asn Glu Glu Glu Asn
 1 5 10 15

Ser Gln Arg Ile Ser Thr Leu His His Gln Thr Met Pro Ser Asp Leu
 20 25 30

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Thr Gln Asp Glu Phe Thr Gln Leu Ser Gln Ser Ile Ala Glu Phe His
35 40 45

Thr Tyr Gln Leu Gly Asn Gly Arg Cys Ser Ser Leu Leu Ala Gln Arg
50 55 60

Ile His Ala Pro Pro Glu Thr Val Trp Ser Val Val Arg Arg Phe Asp
65 70 75 80

Arg Pro Gln Ile Tyr Lys His Phe Ile Lys Ser Cys Asn Val Ser Glu
85 90 95

Asp Phe Glu Met Arg Val Gly Cys Thr Arg Asp Val Asn Val Ile Ser
100 105 110

Gly Leu Pro Ala Asn Thr Ser Arg Glu Arg Leu Asp Leu Leu Asp Asp
115 120 125

Asp Arg Arg Val Thr Gly Phe Ser Ile Thr Gly Gly Glu His Arg Leu
130 135 140

Arg Asn Tyr Lys Ser Val Thr Thr Val His Arg Phe Glu Lys Glu Glu
145 150 155 160

Glu Glu Glu Arg Ile Trp Thr Val Val Leu Glu Ser Tyr Val Val Asp
165 170 175

Val Pro Glu Gly Asn Ser Glu Glu Asp Thr Arg Leu Phe Ala Asp Thr
180 185 190

Val Ile Arg Leu Asn Leu Gln Lys Leu Ala Ser Ile Thr Glu Ala Met
195 200 205

Asn Arg Asn Asn Asn Asn Asn Asn Ser Ser Gln Val Arg
210 215 220

<210> 90
<211> 190
<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 90

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

Thr Leu Glu Pro Val Ile Lys Thr Tyr His Gln Phe Glu Pro Asp Pro
 20 25 30

Thr Thr Cys Thr Ser Leu Ile Thr Gln Arg Ile His Ala Pro Ala Ser
 35 40 45

Val Val Trp Pro Leu Ile Arg Arg Phe Asp Asn Pro Glu Arg Tyr Lys
 50 55 60

His Phe Val Lys Arg Cys Arg Leu Ile Ser Gly Asp Gly Asp Val Gly
 65 70 75 80

Ser Val Arg Glu Val Thr Val Ile Ser Gly Leu Pro Ala Ser Thr Ser
 85 90 95

Thr Glu Arg Leu Glu Phe Val Asp Asp Asp His Arg Val Leu Ser Phe
 100 105 110

Arg Val Val Gly Gly Glu His Arg Leu Lys Asn Tyr Lys Ser Val Thr
 115 120 125

Ser Val Asn Glu Phe Leu Asn Gln Asp Ser Gly Lys Val Tyr Thr Val
 130 135 140

Val Leu Glu Ser Tyr Thr Val Asp Ile Pro Glu Gly Asn Thr Glu Glu
 145 150 155 160

Asp Thr Lys Met Phe Val Asp Thr Val Val Lys Leu Asn Leu Gln Lys
 165 170 175

Leu Gly Val Ala Ala Thr Ser Ala Pro Met His Asp Asp Glu

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180

185

190

<210> 91

<211> 209

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 91

Met Asn Leu Ala Pro Ile His Asp Pro Ser Ser Ser Ser Thr Thr Thr
 1 5 10 15

Thr Ser Ser Ser Thr Pro Tyr Gly Leu Thr Lys Asp Glu Phe Ser Thr
 20 25 30

Leu Asp Ser Ile Ile Arg Thr His His Thr Phe Pro Arg Ser Pro Asn
 35 40 45

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

Ile Trp Arg Phe Val Arg Asp Phe Ala Asn Pro Asn Lys Tyr Lys His
 65 70 75 80

Phe Ile Lys Ser Cys Thr Ile Arg Val Asn Gly Asn Gly Ile Lys Glu
 85 90 95

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

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

Ile Leu Ser Phe Arg Val Leu Gly Gly Glu His Arg Leu Asn Asn Tyr
 130 135 140

Arg Ser Val Thr Ser Val Asn Glu Phe Val Val Leu Glu Lys Asp Lys
 145 150 155 160

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Lys Lys Arg Val Tyr Ser Val Val Leu Glu Ser Tyr Ile Val Asp Ile
165 170 175

Pro Gln Gly Asn Thr Glu Glu Asp Thr Arg Met Phe Val Asp Thr Val
180 185 190

Val Lys Ser Asn Leu Gln Asn Leu Ala Val Ile Ser Thr Ala Ser Pro
195 200 205

Thr

<210> 92

<211> 207

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 92

Met Leu Ala Val His Arg Pro Ser Ser Ala Val Ser Asp Gly Asp Ser
1 5 10 15

Val Gln Ile Pro Met Met Ile Ala Ser Phe Gln Lys Arg Phe Pro Ser
20 25 30

Leu Ser Arg Asp Ser Thr Ala Ala Arg Phe His Thr His Glu Val Gly
35 40 45

Pro Asn Gln Cys Cys Ser Ala Val Ile Gln Glu Ile Ser Ala Pro Ile
50 55 60

Ser Thr Val Trp Ser Val Val Arg Arg Phe Asp Asn Pro Gln Ala Tyr
65 70 75 80

Lys His Phe Leu Lys Ser Cys Ser Val Ile Gly Gly Asp Gly Asp Asn
85 90 95

Val Gly Ser Leu Arg Gln Val His Val Val Ser Gly Leu Pro Ala Ala

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100

105

110

Ser Ser Thr Glu Arg Leu Asp Ile Leu Asp Asp Glu Arg His Val Ile
115 120 125

Ser Phe Ser Val Val Gly Gly Asp His Arg Leu Ser Asn Tyr Arg Ser
130 135 140

Val Thr Thr Leu His Pro Ser Pro Ile Ser Gly Thr Val Val Val Glu
145 150 155 160

Ser Tyr Val Val Asp Val Pro Pro Gly Asn Thr Lys Glu Glu Thr Cys
165 170 175

Asp Phe Val Asp Val Ile Val Arg Cys Asn Leu Gln Ser Leu Ala Lys
180 185 190

Ile Ala Glu Asn Thr Ala Ala Glu Ser Lys Lys Lys Met Ser Leu
195 200 205

<210> 93

<211> 203

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 93

Met Arg Ser Pro Val Gln Leu Gln His Gly Ser Asp Ala Thr Asn Gly
1 5 10 15

Phe His Thr Leu Gln Pro His Asp Gln Thr Asp Gly Pro Ile Lys Arg
20 25 30

Val Cys Leu Thr Arg Gly Met His Val Pro Glu His Val Ala Met His
35 40 45

His Thr His Asp Val Gly Pro Asp Gln Cys Cys Ser Ser Val Val Gln
50 55 60

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Met Ile His Ala Pro Pro Glu Ser Val Trp Ala Leu Val Arg Arg Phe
65 70 75 80

Asp Asn Pro Lys Val Tyr Lys Asn Phe Ile Arg Gln Cys Arg Ile Val
85 90 95

Gln Gly Asp Gly Leu His Val Gly Asp Leu Arg Glu Val Met Val Val
100 105 110

Ser Gly Leu Pro Ala Val Ser Ser Thr Glu Arg Leu Glu Ile Leu Asp
115 120 125

Glu Glu Arg His Val Ile Ser Phe Ser Val Val Gly Gly Asp His Arg
130 135 140

Leu Lys Asn Tyr Arg Ser Val Thr Thr Leu His Ala Ser Asp Asp Glu
145 150 155 160

Gly Thr Val Val Val Glu Ser Tyr Ile Val Asp Val Pro Pro Gly Asn
165 170 175

Thr Glu Glu Glu Thr Leu Ser Phe Val Asp Thr Ile Val Arg Cys Asn
180 185 190

Leu Gln Ser Leu Ala Arg Ser Thr Asn Arg Gln
195 200

<210> 94
<211> 215
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 94

Met Pro Thr Ser Ile Gln Phe Gln Arg Ser Ser Thr Ala Ala Glu Ala
1 5 10 15

Ala Asn Ala Thr Val Arg Asn Tyr Pro His His His Gln Lys Gln Val

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20

25

30

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

Glu Leu Ser His Thr His Val Val Gly Pro Ser Gln Cys Phe Ser Val
 50 55 60

Val Val Gln Asp Val Glu Ala Pro Val Ser Thr Val Trp Ser Ile Leu
 65 70 75 80

Ser Arg Phe Glu His Pro Gln Ala Tyr Lys His Phe Val Lys Ser Cys
 85 90 95

His Val Val Ile Gly Asp Gly Arg Glu Val Gly Ser Val Arg Glu Val
 100 105 110

Arg Val Val Ser Gly Leu Pro Ala Ala Phe Ser Leu Glu Arg Leu Glu
 115 120 125

Ile Met Asp Asp Asp Arg His Val Ile Ser Phe Ser Val Val Gly Gly
 130 135 140

Asp His Arg Leu Met Asn Tyr Lys Ser Val Thr Thr Val His Glu Ser
 145 150 155 160

Glu Glu Asp Ser Asp Gly Lys Lys Arg Thr Arg Val Val Glu Ser Tyr
 165 170 175

Val Val Asp Val Pro Ala Gly Asn Asp Lys Glu Glu Thr Cys Ser Phe
 180 185 190

Ala Asp Thr Ile Val Arg Cys Asn Leu Gln Ser Leu Ala Lys Leu Ala
 195 200 205

Glu Asn Thr Ser Lys Phe Ser
 210 215

<210> 95

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

<220>
 <223> synthetic polypeptide

<400> 95

Met Glu Met Ile Gly Gly Asp Asp Thr Asp Thr Glu Met Tyr Gly Ala
 1 5 10 15

Leu Val Thr Ala Gln Ser Leu Arg Leu Arg His Leu His His Cys Arg
 20 25 30

Glu Asn Gln Cys Thr Ser Val Leu Val Lys Tyr Ile Gln Ala Pro Val
 35 40 45

His Leu Val Trp Ser Leu Val Arg Arg Phe Asp Gln Pro Gln Lys Tyr
 50 55 60

Lys Pro Phe Ile Ser Arg Cys Thr Val Asn Gly Asp Pro Glu Ile Gly
 65 70 75 80

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

Thr Glu Arg Leu Glu Gln Leu Asp Asp Glu Glu His Ile Leu Gly Ile
 100 105 110

Asn Ile Ile Gly Gly Asp His Arg Leu Lys Asn Tyr Ser Ser Ile Leu
 115 120 125

Thr Val His Pro Glu Met Ile Asp Gly Arg Ser Gly Thr Met Val Met
 130 135 140

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

Cys Tyr Phe Val Glu Ser Leu Ile Lys Cys Asn Leu Lys Ser Leu Ala
 165 170 175

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Cys Val Ser Glu Arg Leu Ala Ala Gln Asp Ile Thr Asn Ser Ile Ala
180 185 190

Thr Phe Cys Asn Ala Ser Asn Gly Tyr Arg Glu Lys Asn His Thr Glu
195 200 205

Thr Asn Leu
210

<210> 96

<211> 188

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 96

Met Glu Ala Asn Gly Ile Glu Asn Leu Thr Asn Pro Asn Gln Glu Arg
1 5 10 15

Glu Phe Ile Arg Arg His His Lys His Glu Leu Val Asp Asn Gln Cys
20 25 30

Ser Ser Thr Leu Val Lys His Ile Asn Ala Pro Val His Ile Val Trp
35 40 45

Ser Leu Val Arg Arg Phe Asp Gln Pro Gln Lys Tyr Lys Pro Phe Ile
50 55 60

Ser Arg Cys Val Val Lys Gly Asn Met Glu Ile Gly Thr Val Arg Glu
65 70 75 80

Val Asp Val Lys Ser Gly Leu Pro Ala Thr Arg Ser Thr Glu Arg Leu
85 90 95

Glu Leu Leu Asp Asp Asn Glu His Ile Leu Ser Ile Arg Ile Val Gly
100 105 110

Gly Asp His Arg Leu Lys Asn Tyr Ser Ser Ile Ile Ser Leu His Pro

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115

120

125

Glu Thr Ile Glu Gly Arg Ile Gly Thr Leu Val Ile Glu Ser Phe Val
130 135 140

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

Glu Ala Leu Ile Lys Cys Asn Leu Lys Ser Leu Ala Asp Ile Ser Glu
165 170 175

Arg Leu Ala Val Gln Asp Thr Thr Glu Ser Arg Val
180 185

<210> 97
<211> 187
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 97

Met Met Asp Gly Val Glu Gly Gly Thr Ala Met Tyr Gly Gly Leu Glu
1 5 10 15

Thr Val Gln Tyr Val Arg Thr His His Gln His Leu Cys Arg Glu Asn
20 25 30

Gln Cys Thr Ser Ala Leu Val Lys His Ile Lys Ala Pro Leu His Leu
35 40 45

Val Trp Ser Leu Val Arg Arg Phe Asp Gln Pro Gln Lys Tyr Lys Pro
50 55 60

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

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

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Arg Leu Glu Leu Leu Asp Asp Glu Glu His Ile Leu Gly Ile Lys Ile
100 105 110

Ile Gly Gly Asp His Arg Leu Lys Asn Tyr Ser Ser Ile Leu Thr Val
115 120 125

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

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

Phe Val Glu Ala Leu Ile Arg Cys Asn Leu Lys Ser Leu Ala Asp Val
165 170 175

Ser Glu Arg Leu Ala Ser Gln Asp Ile Thr Gln
180 185

<210> 98

<211> 191

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 98

Met Pro Ser Glu Leu Thr Pro Glu Glu Arg Ser Glu Leu Lys Asn Ser
1 5 10 15

Ile Ala Glu Phe His Thr Tyr Gln Leu Asp Pro Gly Ser Cys Ser Ser
20 25 30

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

Val Arg Arg Phe Asp Lys Pro Gln Thr Tyr Lys His Phe Ile Lys Ser
50 55 60

Cys Ser Val Glu Gln Asn Phe Glu Met Arg Val Gly Cys Thr Arg Asp

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Asp Ile Leu Asp Asp Glu Arg Arg Val Thr Gly Phe Ser Ile Ile Gly
100 105 110

Gly Glu His Arg Leu Thr Asn Tyr Lys Ser Val Thr Thr Val His Arg
115 120 125

Phe Glu Lys Glu Asn Arg Ile Trp Thr Val Val Leu Glu Ser Tyr Val
130 135 140

Val	Asp	Met	Pro	Glu	Gly	Asn	Ser	Glu	Asp	Asp	Thr	Arg	Met	Phe	Ala
145					150					155					160

Asp Thr Val Val Lys Leu Asn Leu Gln Lys Leu Ala Thr Val Ala Glu
165 170 175

Ala Met Ala Arg Asn Ser Gly Asp Gly Ser Gly Ser Gln Val Thr
180 185 190

<210>	99
<211>	434
<212>	PRT
<213>	Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 99

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

Glu Thr Gln Met Asp Phe Thr Gly Ile Arg Leu Gly Lys Gly Tyr Cys
20 25 30

Asn Asn Gln Tyr Ser Asn Gln Asp Ser Glu Asn Gly Asp Leu Met Val
35 40 45

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

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Ala Asn Cys Gly Asp Ser Arg Ala Val Leu Cys Arg Gly Lys Thr Ala
260 265 270

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

Arg Ile Glu Ala Ala Gly Gly Lys Val Ile Gln Trp Asn Gly Ala Arg
290 295 300

Val Phe Gly Val Leu Ala Met Ser Arg Ser Ile Gly Asp Arg Tyr Leu
305 310 315 320

Lys Pro Ser Ile Ile Pro Asp Pro Glu Val Thr Ala Val Lys Arg Val
325 330 335

Lys Glu Asp Asp Cys Leu Ile Leu Ala Ser Asp Gly Val Trp Asp Val
340 345 350

Met Thr Asp Glu Glu Ala Cys Glu Met Ala Arg Lys Arg Ile Leu Leu
355 360 365

Trp His Lys Lys Asn Ala Val Ala Gly Asp Ala Ser Leu Leu Ala Asp
370 375 380

Glu Arg Arg Lys Glu Gly Lys Asp Pro Ala Ala Met Ser Ala Ala Glu
385 390 395 400

Tyr Leu Ser Lys Leu Ala Ile Gln Arg Gly Ser Lys Asp Asn Ile Ser
405 410 415

Val Val Val Val Asp Leu Lys Pro Arg Arg Lys Leu Lys Ser Lys Pro
420 425 430

Leu Asn

<210> 100

<211> 423

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 100

Met Asp Glu Val Ser Pro Ala Val Ala Val Pro Phe Arg Pro Phe Thr
 1 5 10 15

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

Thr Leu Pro Glu Ser Ser Cys Ser Gly Asp Gly Ala Met Lys Asp Ser
 35 40 45

Ser Phe Glu Ile Asn Thr Arg Gln Asp Ser Leu Thr Ser Ser Ser Ser
 50 55 60

Ala Met Ala Gly Val Asp Ile Ser Ala Gly Asp Glu Ile Asn Gly Ser
 65 70 75 80

Asp Glu Phe Asp Pro Arg Ser Met Asn Gln Ser Glu Lys Lys Val Leu
 85 90 95

Ser Arg Thr Glu Ser Arg Ser Leu Phe Glu Phe Lys Cys Val Pro Leu
 100 105 110

Tyr Gly Val Thr Ser Ile Cys Gly Arg Arg Pro Glu Met Glu Asp Ser
 115 120 125

Val Ser Thr Ile Pro Arg Phe Leu Gln Val Ser Ser Ser Ser Leu Leu
 130 135 140

Asp Gly Arg Val Thr Asn Gly Phe Asn Pro His Leu Ser Ala His Phe
 145 150 155 160

Phe Gly Val Tyr Asp Gly His Gly Gly Ser Gln Val Ala Asn Tyr Cys
 165 170 175

Arg Glu Arg Met His Leu Ala Leu Thr Glu Glu Ile Val Lys Glu Lys

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180

185

190

Pro Glu Phe Cys Asp Gly Asp Thr Trp Gln Glu Lys Trp Lys Lys Ala
 195 200 205

Leu Phe Asn Ser Phe Met Arg Val Asp Ser Glu Ile Glu Thr Val Ala
 210 215 220

His Ala Pro Glu Thr Val Gly Ser Thr Ser Val Val Ala Val Val Phe
 225 230 235 240

Pro Thr His Ile Phe Val Ala Asn Cys Gly Asp Ser Arg Ala Val Leu
 245 250 255

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

Arg Asp Asp Glu Ala Ala Arg Ile Glu Ala Ala Gly Gly Lys Val Ile
 275 280 285

Arg Trp Asn Gly Ala Arg Val Phe Gly Val Leu Ala Met Ser Arg Ser
 290 295 300

Ile Gly Asp Arg Tyr Leu Lys Pro Ser Val Ile Pro Asp Pro Glu Val
 305 310 315 320

Thr Ser Val Arg Arg Val Lys Glu Asp Asp Cys Leu Ile Leu Ala Ser
 325 330 335

Asp Gly Leu Trp Asp Val Met Thr Asn Glu Glu Val Cys Asp Leu Ala
 340 345 350

Arg Lys Arg Ile Leu Leu Trp His Lys Lys Asn Ala Met Ala Gly Glu
 355 360 365

Ala Leu Leu Pro Ala Glu Lys Arg Gly Glu Gly Lys Asp Pro Ala Ala
 370 375 380

Met Ser Ala Ala Glu Tyr Leu Ser Lys Met Ala Leu Gln Lys Gly Ser

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Phe Lys Ser Lys Ser Leu Asn
420

<220>
<223> synthetic polypeptide

Met Lys Met Asp Lys Lys Thr Ile Val Trp Phe Arg Arg Asp Leu Arg
1 5 10 15

Phe Pro Val Phe Ile Trp Cys Pro Glu Glu Glu Gly Gln Phe Tyr Pro
35 40 45

Gln Ser Leu Lys Ala Leu Gly Ser Asp Leu Thr Leu Ile Lys Thr His
65 70 75 80

Lys Val Val Phe Asn His Leu Tyr Asp Pro Val Ser Leu Val Arg Asp
100 105 110

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

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Tyr Asn Gly Asp Leu Leu Tyr Glu Pro Trp Glu Ile Tyr Cys Glu Lys
130 135 140

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

Met Ser Ile Glu Ser Val Met Leu Pro Pro Pro Trp Arg Leu Met Pro
165 170 175

Ile Thr Ala Ala Ala Glu Ala Ile Trp Ala Cys Ser Ile Glu Glu Leu
180 185 190

Gly Leu Glu Asn Glu Ala Glu Lys Pro Ser Asn Ala Leu Leu Thr Arg
195 200 205

Ala Trp Ser Pro Gly Trp Ser Asn Ala Asp Lys Leu Leu Asn Glu Phe
210 215 220

Ile Glu Lys Gln Leu Ile Asp Tyr Ala Lys Asn Ser Lys Lys Val Val
225 230 235 240

Gly Asn Ser Thr Ser Leu Leu Ser Pro Tyr Leu His Phe Gly Glu Ile
245 250 255

Ser Val Arg His Val Phe Gln Cys Ala Arg Met Lys Gln Ile Ile Trp
260 265 270

Ala Arg Asp Lys Asn Ser Glu Gly Glu Glu Ser Ala Asp Leu Phe Leu
275 280 285

Arg Gly Ile Gly Leu Arg Glu Tyr Ser Arg Tyr Ile Cys Phe Asn Phe
290 295 300

Pro Phe Thr His Glu Gln Ser Leu Leu Ser His Leu Arg Phe Phe Pro
305 310 315 320

Trp Asp Ala Asp Val Asp Lys Phe Lys Ala Trp Arg Gln Gly Arg Thr
325 330 335

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Gly Tyr Pro Leu Val Asp Ala Gly Met Arg Glu Leu Trp Ala Thr Gly
340 345 350

Trp Met His Asn Arg Ile Arg Val Ile Val Ser Ser Phe Ala Val Lys
355 360 365

Phe Leu Leu Leu Pro Trp Lys Trp Gly Met Lys Tyr Phe Trp Asp Thr
370 375 380

Leu Leu Asp Ala Asp Leu Glu Cys Asp Ile Leu Gly Trp Gln Tyr Ile
385 390 395 400

Ser Gly Ser Ile Pro Asp Gly His Glu Leu Asp Arg Leu Asp Asn Pro
405 410 415

Ala Leu Gln Gly Ala Lys Tyr Asp Pro Glu Gly Glu Tyr Ile Arg Gln
420 425 430

Trp Leu Pro Glu Leu Ala Arg Leu Pro Thr Glu Trp Ile His His Pro
435 440 445

Trp Asp Ala Pro Leu Thr Val Leu Lys Ala Ser Gly Val Glu Leu Gly
450 455 460

Thr Asn Tyr Ala Lys Pro Ile Val Asp Ile Asp Thr Ala Arg Glu Leu
465 470 475 480

Leu Ala Lys Ala Ile Ser Arg Thr Arg Glu Ala Gln Ile Met Ile Gly
485 490 495

Ala Ala Pro Asp Glu Ile Val Ala Asp Ser Phe Glu Ala Leu Gly Ala
500 505 510

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

Gln Gln Val Pro Ser Ala Val Arg Tyr Asn Gly Ser Lys Arg Val Lys
530 535 540

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

Glu Arg Glu Leu Phe Ser Thr Ala Glu Ser Ser Ser Ser Ser Ser Val
565 570 575

Phe Phe Val Ser Gln Ser Cys Ser Leu Ala Ser Glu Gly Lys Asn Leu
580 585 590

Glu Gly Ile Gln Asp Ser Ser Asp Gln Ile Thr Thr Ser Leu Gly Lys
595 600 605

Asn Gly Cys Lys
610

<210> 102
<211> 335
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 102

Met Asn Gly Ala Ile Gly Gly Asp Leu Leu Leu Asn Phe Pro Asp Met
1 5 10 15

Ser Val Leu Glu Arg Gln Arg Ala His Leu Lys Tyr Leu Asn Pro Thr
20 25 30

Phe Asp Ser Pro Leu Ala Gly Phe Phe Ala Asp Ser Ser Met Ile Thr
35 40 45

Gly Gly Glu Met Asp Ser Tyr Leu Ser Thr Ala Gly Leu Asn Leu Pro
50 55 60

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

Ser Pro Glu Thr Thr Leu Gly Thr Gly Asn Phe Lys Lys Arg Lys Phe

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85

90

95

Asp Thr Glu Thr Lys Asp Cys Asn Glu Lys Lys Lys Lys Met Thr Met
 100 105 110

Asn Arg Asp Asp Leu Val Glu Glu Gly Glu Glu Glu Lys Ser Lys Ile
 115 120 125

Thr Glu Gln Asn Asn Gly Ser Thr Lys Ser Ile Lys Lys Met Lys His
 130 135 140

Lys Ala Lys Lys Glu Glu Asn Asn Phe Ser Asn Asp Ser Ser Lys Val
 145 150 155 160

Thr Lys Glu Leu Glu Lys Thr Asp Tyr Ile His Val Arg Ala Arg Arg
 165 170 175

Gly Gln Ala Thr Asp Ser His Ser Ile Ala Glu Arg Val Arg Arg Glu
 180 185 190

Lys Ile Ser Glu Arg Met Lys Phe Leu Gln Asp Leu Val Pro Gly Cys
 195 200 205

Asp Lys Ile Thr Gly Lys Ala Gly Met Leu Asp Glu Ile Ile Asn Tyr
 210 215 220

Val Gln Ser Leu Gln Arg Gln Ile Glu Phe Leu Ser Met Lys Leu Ala
 225 230 235 240

Ile Val Asn Pro Arg Pro Asp Phe Asp Met Asp Asp Ile Phe Ala Lys
 245 250 255

Glu Val Ala Ser Thr Pro Met Thr Val Val Pro Ser Pro Glu Met Val
 260 265 270

Leu Ser Gly Tyr Ser His Glu Met Val His Ser Gly Tyr Ser Ser Glu
 275 280 285

Met Val Asn Ser Gly Tyr Leu His Val Asn Pro Met Gln Gln Val Asn

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290

295

300

Thr Ser Ser Asp Pro Leu Ser Cys Phe Asn Asn Gly Glu Ala Pro Ser
305 310 315 320

Met Trp Asp Ser His Val Gln Asn Leu Tyr Gly Asn Leu Gly Val
325 330 335

<210> 103

<211> 533

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 103

Met Lys Arg Asp His His His His His His Gln Asp Lys Lys Thr Met
1 5 10 15

Met Met Asn Glu Glu Asp Asp Gly Asn Gly Met Asp Glu Leu Leu Ala
20 25 30

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

Lys Leu Glu Gln Leu Glu Val Met Met Ser Asn Val Gln Glu Asp Asp
50 55 60

Leu Ser Gln Leu Ala Thr Glu Thr Val His Tyr Asn Pro Ala Glu Leu
65 70 75 80

Tyr Thr Trp Leu Asp Ser Met Leu Thr Asp Leu Asn Pro Pro Ser Ser
85 90 95

Asn Ala Glu Tyr Asp Leu Lys Ala Ile Pro Gly Asp Ala Ile Leu Asn
100 105 110

Gln Phe Ala Ile Asp Ser Ala Ser Ser Ser Asn Gln Gly Gly Gly Gly
115 120 125

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Asp Thr Tyr Thr Thr Asn Lys Arg Leu Lys Cys Ser Asn Gly Val Val
130 135 140

Glu Thr Thr Thr Ala Thr Ala Glu Ser Thr Arg His Val Val Leu Val
145 150 155 160

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

Ala Glu Ala Val Gln Lys Glu Asn Leu Thr Val Ala Glu Ala Leu Val
180 185 190

Lys Gln Ile Gly Phe Leu Ala Val Ser Gln Ile Gly Ala Met Arg Lys
195 200 205

Val Ala Thr Tyr Phe Ala Glu Ala Leu Ala Arg Arg Ile Tyr Arg Leu
210 215 220

Ser Pro Ser Gln Ser Pro Ile Asp His Ser Leu Ser Asp Thr Leu Gln
225 230 235 240

Met His Phe Tyr Glu Thr Cys Pro Tyr Leu Lys Phe Ala His Phe Thr
245 250 255

Ala Asn Gln Ala Ile Leu Glu Ala Phe Gln Gly Lys Lys Arg Val His
260 265 270

Val Ile Asp Phe Ser Met Ser Gln Gly Leu Gln Trp Pro Ala Leu Met
275 280 285

Gln Ala Leu Ala Leu Arg Pro Gly Gly Pro Pro Val Phe Arg Leu Thr
290 295 300

Gly Ile Gly Pro Pro Ala Pro Asp Asn Phe Asp Tyr Leu His Glu Val
305 310 315 320

Gly Cys Lys Leu Ala His Leu Ala Glu Ala Ile His Val Glu Phe Glu
325 330 335

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Tyr Arg Gly Phe Val Ala Asn Thr Leu Ala Asp Leu Asp Ala Ser Met
340 345 350

Leu Glu Leu Arg Pro Ser Glu Ile Glu Ser Val Ala Val Asn Ser Val
355 360 365

Phe Glu Leu His Lys Leu Leu Gly Arg Pro Gly Ala Ile Asp Lys Val
370 375 380

Leu Gly Val Val Asn Gln Ile Lys Pro Glu Ile Phe Thr Val Val Glu
385 390 395 400

Gln Glu Ser Asn His Asn Ser Pro Ile Phe Leu Asp Arg Phe Thr Glu
405 410 415

Ser Leu His Tyr Tyr Ser Thr Leu Phe Asp Ser Leu Glu Gly Val Pro
420 425 430

Ser Gly Gln Asp Lys Val Met Ser Glu Val Tyr Leu Gly Lys Gln Ile
435 440 445

Cys Asn Val Val Ala Cys Asp Gly Pro Asp Arg Val Glu Arg His Glu
450 455 460

Thr Leu Ser Gln Trp Arg Asn Arg Phe Gly Ser Ala Gly Phe Ala Ala
465 470 475 480

Ala His Ile Gly Ser Asn Ala Phe Lys Gln Ala Ser Met Leu Leu Ala
485 490 495

Leu Phe Asn Gly Gly Glu Gly Tyr Arg Val Glu Glu Ser Asp Gly Cys
500 505 510

Leu Met Leu Gly Trp His Thr Arg Pro Leu Ile Ala Thr Ser Ala Trp
515 520 525

Lys Leu Ser Thr Asn
530

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<210> 104
 <211> 345
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 104

Met Ala Ala Ser Asp Glu Val Asn Leu Ile Glu Ser Arg Thr Val Val
 1 5 10 15

Pro Leu Asn Thr Trp Val Leu Ile Ser Asn Phe Lys Val Ala Tyr Asn
 20 25 30

Ile Leu Arg Arg Pro Asp Gly Thr Phe Asn Arg His Leu Ala Glu Tyr
 35 40 45

Leu Asp Arg Lys Val Thr Ala Asn Ala Asn Pro Val Asp Gly Val Phe
 50 55 60

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

Tyr Arg Pro Ala Tyr Ala Asp Gln Glu Gln Pro Pro Ser Ile Leu Asp
 85 90 95

Leu Glu Lys Pro Val Asp Gly Asp Ile Val Pro Val Ile Leu Phe Phe
 100 105 110

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

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

Val Asn Tyr Arg Arg Ala Pro Glu Asn Pro Tyr Pro Cys Ala Tyr Asp
 145 150 155 160

Asp Gly Trp Ile Ala Leu Asn Trp Val Asn Ser Arg Ser Trp Leu Lys

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165

170

175

Ser Lys Lys Asp Ser Lys Val His Ile Phe Leu Ala Gly Asp Ser Ser
180 185 190

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

Ile Asp Val Leu Gly Asn Ile Leu Leu Asn Pro Met Phe Gly Gly Asn
210 215 220

Glu Arg Thr Glu Ser Glu Lys Ser Leu Asp Gly Lys Tyr Phe Val Thr
225 230 235 240

Val Arg Asp Arg Asp Trp Tyr Trp Lys Ala Phe Leu Pro Glu Gly Glu
245 250 255

Asp Arg Glu His Pro Ala Cys Asn Pro Phe Ser Pro Arg Gly Lys Ser
260 265 270

Leu Glu Gly Val Ser Phe Pro Lys Ser Leu Val Val Val Ala Gly Leu
275 280 285

Asp Leu Ile Arg Asp Trp Gln Leu Ala Tyr Ala Glu Gly Leu Lys Lys
290 295 300

Ala Gly Gln Glu Val Lys Leu Met His Leu Glu Lys Ala Thr Val Gly
305 310 315 320

Phe Tyr Leu Leu Pro Asn Asn Asn His Phe His Asn Val Met Asp Glu
325 330 335

Ile Ser Ala Phe Val Asn Ala Glu Cys
340 345

<210> 105

<211> 358

<212> PRT

<213> Artificial Sequence

UCSF-518W0_SeqList_ST25

<220>

<223> synthetic polypeptide

<400> 105

Met Ala Gly Gly Asn Glu Val Asn Leu Asn Glu Cys Lys Arg Ile Val
 1 5 10 15

Pro Leu Asn Thr Trp Val Leu Ile Ser Asn Phe Lys Leu Ala Tyr Lys
 20 25 30

Val Leu Arg Arg Pro Asp Gly Ser Phe Asn Arg Asp Leu Ala Glu Phe
 35 40 45

Leu Asp Arg Lys Val Pro Ala Asn Ser Phe Pro Leu Asp Gly Val Phe
 50 55 60

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

Gln Pro Ala Ser Leu Leu His Gln Thr Arg His Gly Thr Leu Glu Leu
 85 90 95

Thr Lys Pro Leu Ser Thr Thr Glu Ile Val Pro Val Leu Ile Phe Phe
 100 105 110

His Gly Gly Ser Phe Thr His Ser Ser Ala Asn Ser Ala Ile Tyr Asp
 115 120 125

Thr Phe Cys Arg Arg Leu Val Thr Ile Cys Gly Val Val Val Val Ser
 130 135 140

Val Asp Tyr Arg Arg Ser Pro Glu His Arg Tyr Pro Cys Ala Tyr Asp
 145 150 155 160

Asp Gly Trp Asn Ala Leu Asn Trp Val Lys Ser Arg Val Trp Leu Gln
 165 170 175

Ser Gly Lys Asp Ser Asn Val Tyr Val Tyr Leu Ala Gly Asp Ser Ser
 180 185 190

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Gly Gly Asn Ile Ala His Asn Val Ala Val Arg Ala Thr Asn Glu Gly
195 200 205

Val Lys Val Leu Gly Asn Ile Leu Leu His Pro Met Phe Gly Gly Gln
210 215 220

Glu Arg Thr Gln Ser Glu Lys Thr Leu Asp Gly Lys Tyr Phe Val Thr
225 230 235 240

Ile Gln Asp Arg Asp Trp Tyr Trp Arg Ala Tyr Leu Pro Glu Gly Glu
245 250 255

Asp Arg Asp His Pro Ala Cys Asn Pro Phe Gly Pro Arg Gly Gln Ser
260 265 270

Leu Lys Gly Val Asn Phe Pro Lys Ser Leu Val Val Val Ala Gly Leu
275 280 285

Asp Leu Val Gln Asp Trp Gln Leu Ala Tyr Val Asp Gly Leu Lys Lys
290 295 300

Thr Gly Leu Glu Val Asn Leu Leu Tyr Leu Lys Gln Ala Thr Ile Gly
305 310 315 320

Phe Tyr Phe Leu Pro Asn Asn Asp His Phe His Cys Leu Met Glu Glu
325 330 335

Leu Asn Lys Phe Val His Ser Ile Glu Asp Ser Gln Ser Lys Ser Ser
340 345 350

Pro Val Leu Leu Thr Pro
355

<210> 106
<211> 344
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

UCSF-518W0_SeqList_ST25

<400> 106

Met Ala Gly Ser Glu Glu Val Asn Leu Ile Glu Ser Lys Thr Val Val
1 5 10 15

Pro Leu Asn Thr Trp Val Leu Ile Ser Asn Phe Lys Leu Ala Tyr Asn
20 25 30

Leu Leu Arg Arg Pro Asp Gly Thr Phe Asn Arg His Leu Ala Glu Phe
35 40 45

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

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

Tyr Arg Pro Ala Asp Ala Gly Thr Ser Pro Ser Ile Thr Asp Leu Gln
85 90 95

Asn Pro Val Asp Gly Glu Ile Val Pro Val Ile Val Phe Phe His Gly
100 105 110

Gly Ser Phe Ala His Ser Ser Ala Asn Ser Ala Ile Tyr Asp Thr Leu
115 120 125

Cys Arg Arg Leu Val Gly Leu Cys Gly Ala Val Val Val Ser Val Asn
130 135 140

Tyr Arg Arg Ala Pro Glu Asn Arg Tyr Pro Cys Ala Tyr Asp Asp Gly
145 150 155 160

Trp Ala Val Leu Lys Trp Val Asn Ser Ser Ser Trp Leu Arg Ser Lys
165 170 175

Lys Asp Ser Lys Val Arg Ile Phe Leu Ala Gly Asp Ser Ser Gly Gly
180 185 190

Asn Ile Val His Asn Val Ala Val Arg Ala Val Glu Ser Arg Ile Asp

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200 205

195

Val Leu Gly Asn Ile Leu Leu Asn Pro Met Phe Gly Gly Thr Glu Arg
210 215 220

Thr Glu Ser Glu Lys Arg Leu Asp Gly Lys Tyr Phe Val Thr Val Arg
225 230 235 240

Asp Arg Asp Trp Tyr Trp Arg Ala Phe Leu Pro Glu Gly Glu Asp Arg
245 250 255

Glu His Pro Ala Cys Ser Pro Phe Gly Pro Arg Ser Lys Ser Leu Glu
260 265 270

Gly Leu Ser Phe Pro Lys Ser Leu Val Val Val Ala Gly Leu Asp Leu
275 280 285

Ile Gln Asp Trp Gln Leu Lys Tyr Ala Glu Gly Leu Lys Lys Ala Gly
290 295 300

Gln Glu Val Lys Leu Leu Tyr Leu Glu Gln Ala Thr Ile Gly Phe Tyr
305 310 315 320

Leu Leu Pro Asn Asn Asn His Phe His Thr Val Met Asp Glu Ile Ala
325 330 335

Ala Phe Val Asn Ala Glu Cys Gln
340

<210> 107

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 107

Met Gly Gly Leu Glu Pro Cys Ser Arg Leu Leu Leu Leu Pro Leu Leu
1 5 10 15

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Leu Ala Val Ser Gly Leu Arg Pro Val Gln Ala Gln Ala Gln Ser Asp
20 25 30

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

Gly Asp Leu Val Leu Thr Val Leu Ile Ala Leu Ala Val Tyr Phe Leu
50 55 60

Gly Arg Leu Val Pro Arg Gly Arg Gly Ala Ala Glu Ala Ala Thr Arg
65 70 75 80

Lys Gln Arg Ile Thr Glu Thr Glu Ser Pro Tyr Gln Glu Leu Gln Gly
85 90 95

Gln Arg Ser Asp Val Tyr Ser Asp Leu Asn Thr Gln Arg Pro Tyr Tyr
100 105 110

Lys

<210> 108
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 108

Met Gly Gly Leu Glu Pro Cys Ser Arg Leu Leu Leu Leu Pro Leu Leu
1 5 10 15

Leu Ala Val Ser Gly Leu Arg Pro Val Gln Ala Gln Ala Gln Ser Asp
20 25 30

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

Gly Asp Leu Val Leu Thr Val Leu Ile Ala Leu Ala Val Tyr Phe Leu

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50

55

60

Gly Arg Leu Val Pro Arg Gly Arg Gly Ala Ala Glu Ala Thr Arg Lys
65 70 75 80

Gln Arg Ile Thr Glu Thr Glu Ser Pro Tyr Gln Glu Leu Gln Gly Gln
85 90 95

Arg Ser Asp Val Tyr Ser Asp Leu Asn Thr Gln Arg Pro Tyr Tyr Lys
100 105 110

<210> 109

<211> 102

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 109

Met Gly Gly Leu Glu Pro Cys Ser Arg Leu Leu Leu Leu Pro Leu Leu
1 5 10 15

Leu Ala Val Ser Asp Cys Ser Cys Ser Thr Val Ser Pro Gly Val Leu
20 25 30

Ala Gly Ile Val Met Gly Asp Leu Val Leu Thr Val Leu Ile Ala Leu
35 40 45

Ala Val Tyr Phe Leu Gly Arg Leu Val Pro Arg Gly Arg Gly Ala Ala
50 55 60

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

Gln Glu Leu Gln Gly Gln Arg Ser Asp Val Tyr Ser Asp Leu Asn Thr
85 90 95

Gln Arg Pro Tyr Tyr Lys
100

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<210> 110
 <211> 101
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 110

Met Gly Gly Leu Glu Pro Cys Ser Arg Leu Leu Leu Leu Pro Leu Leu
 1 5 10 15

Leu Ala Val Ser Asp Cys Ser Cys Ser Thr Val Ser Pro Gly Val Leu
 20 25 30

Ala Gly Ile Val Met Gly Asp Leu Val Leu Thr Val Leu Ile Ala Leu
 35 40 45

Ala Val Tyr Phe Leu Gly Arg Leu Val Pro Arg Gly Arg Gly Ala Ala
 50 55 60

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

Glu Leu Gln Gly Gln Arg Ser Asp Val Tyr Ser Asp Leu Asn Thr Gln
 85 90 95

Arg Pro Tyr Tyr Lys
 100

<210> 111
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 111

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

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Asp Leu Asn Thr Gln
20

<210> 112
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 112

Met Ile Pro Ala Val Val Leu Leu Leu Leu Leu Val Glu Gln Ala
1 5 10 15

Ala Ala Leu Gly Glu Pro Gln Leu Cys Tyr Ile Leu Asp Ala Ile Leu
20 25 30

Phe Leu Tyr Gly Ile Val Leu Thr Leu Leu Tyr Cys Arg Leu Lys Ile
35 40 45

Gln Val Arg Lys Ala Ala Ile Thr Ser Tyr Glu Lys Ser Asp Gly Val
50 55 60

Tyr Thr Gly Leu Ser Thr Arg Asn Gln Glu Thr Tyr Glu Thr Leu Lys
65 70 75 80

His Glu Lys Pro Pro Gln
85

<210> 113
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 113

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

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Thr Leu Lys His Glu
20

<210> 114
<211> 171
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 114

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

Ser Gln Val Ser Pro Phe Lys Ile Pro Ile Glu Glu Leu Glu Asp Arg
20 25 30

Val Phe Val Asn Cys Asn Thr Ser Ile Thr Trp Val Glu Gly Thr Val
35 40 45

Gly Thr Leu Leu Ser Asp Ile Thr Arg Leu Asp Leu Gly Lys Arg Ile
50 55 60

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

Asp Lys Glu Ser Thr Val Gln Val His Tyr Arg Met Cys Gln Ser Cys
85 90 95

Val Glu Leu Asp Pro Ala Thr Val Ala Gly Ile Ile Val Thr Asp Val
100 105 110

Ile Ala Thr Leu Leu Leu Ala Leu Gly Val Phe Cys Phe Ala Gly His
115 120 125

Glu Thr Gly Arg Leu Ser Gly Ala Ala Asp Thr Gln Ala Leu Leu Arg
130 135 140

Asn Asp Gln Val Tyr Gln Pro Leu Arg Asp Arg Asp Asp Ala Gln Tyr

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 116

Asp Gln Val Tyr Gln Pro Leu Arg Asp Arg Asp Asp Ala Gln Tyr Ser
1 5 10 15

His Leu Gly Gly Asn
20

<210> 117

<211> 207

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 117

Met Gln Ser Gly Thr His Trp Arg Val Leu Gly Leu Cys Leu Leu Ser
1 5 10 15

Val Gly Val Trp Gly Gln Asp Gly Asn Glu Glu Met Gly Gly Ile Thr
20 25 30

Gln Thr Pro Tyr Lys Val Ser Ile Ser Gly Thr Thr Val Ile Leu Thr
35 40 45

Cys Pro Gln Tyr Pro Gly Ser Glu Ile Leu Trp Gln His Asn Asp Lys
50 55 60

Asn Ile Gly Gly Asp Glu Asp Asp Lys Asn Ile Gly Ser Asp Glu Asp
65 70 75 80

His Leu Ser Leu Lys Glu Phe Ser Glu Leu Glu Gln Ser Gly Tyr Tyr
85 90 95

Val Cys Tyr Pro Arg Gly Ser Lys Pro Glu Asp Ala Asn Phe Tyr Leu
100 105 110

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Tyr Leu Arg Ala Arg Val Cys Glu Asn Cys Met Glu Met Asp Val Met
 115 120 125

Ser Val Ala Thr Ile Val Ile Val Asp Ile Cys Ile Thr Gly Gly Leu
 130 135 140

Leu Leu Leu Val Tyr Tyr Trp Ser Lys Asn Arg Lys Ala Lys Ala Lys
 145 150 155 160

Pro Val Thr Arg Gly Ala Gly Ala Gly Gly Arg Gln Arg Gly Gln Asn
 165 170 175

Lys Glu Arg Pro Pro Pro Val Pro Asn Pro Asp Tyr Glu Pro Ile Arg
 180 185 190

Lys Gly Gln Arg Asp Leu Tyr Ser Gly Leu Asn Gln Arg Arg Ile
 195 200 205

<210> 118
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 118

Asn Pro Asp Tyr Glu Pro Ile Arg Lys Gly Gln Arg Asp Leu Tyr Ser
 1 5 10 15

Gly Leu Asn Gln Arg
 20

<210> 119
 <211> 182
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 119

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Met Glu Gln Gly Lys Gly Leu Ala Val Leu Ile Leu Ala Ile Ile Leu
1 5 10 15

Leu Gln Gly Thr Leu Ala Gln Ser Ile Lys Gly Asn His Leu Val Lys
20 25 30

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

Glu Ala Lys Asn Ile Thr Trp Phe Lys Asp Gly Lys Met Ile Gly Phe
50 55 60

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

Pro Arg Gly Met Tyr Gln Cys Lys Gly Ser Gln Asn Lys Ser Lys Pro
85 90 95

Leu Gln Val Tyr Tyr Arg Met Cys Gln Asn Cys Ile Glu Leu Asn Ala
100 105 110

Ala Thr Ile Ser Gly Phe Leu Phe Ala Glu Ile Val Ser Ile Phe Val
115 120 125

Leu Ala Val Gly Val Tyr Phe Ile Ala Gly Gln Asp Gly Val Arg Gln
130 135 140

Ser Arg Ala Ser Asp Lys Gln Thr Leu Leu Pro Asn Asp Gln Leu Tyr
145 150 155 160

Gln Pro Leu Lys Asp Arg Glu Asp Asp Gln Tyr Ser His Leu Gln Gly
165 170 175

Asn Gln Leu Arg Arg Asn
180

<210> 120

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 120

Asp	Gln	Leu	Tyr	Gln	Pro	Leu	Lys	Asp	Arg	Glu	Asp	Asp	Gln	Tyr	Ser
1				5					10					15	

His	Leu	Gln	Gly	Asn
			20	

<210> 121

<211> 163

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic polypeptide

<400> 121

Met	Lys	Trp	Lys	Ala	Leu	Phe	Thr	Ala	Ala	Ile	Leu	Gln	Ala	Gln	Leu
1				5					10					15	

Pro	Ile	Thr	Glu	Ala	Gln	Ser	Phe	Gly	Leu	Leu	Asp	Pro	Lys	Leu	Cys
			20					25					30		

Tyr	Leu	Leu	Asp	Gly	Ile	Leu	Phe	Ile	Tyr	Gly	Val	Ile	Leu	Thr	Ala
			35				40					45			

Leu	Phe	Leu	Arg	Val	Lys	Phe	Ser	Arg	Ser	Ala	Asp	Ala	Pro	Ala	Tyr
	50					55					60				

Gln	Gln	Gly	Gln	Asn	Gln	Leu	Tyr	Asn	Glu	Leu	Asn	Leu	Gly	Arg	Arg
65				70					75					80	

Glu	Glu	Tyr	Asp	Val	Leu	Asp	Lys	Arg	Arg	Gly	Arg	Asp	Pro	Glu	Met
				85					90					95	

Gly	Gly	Lys	Pro	Arg	Arg	Lys	Asn	Pro	Gln	Glu	Gly	Leu	Tyr	Asn	Glu
			100					105					110		

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Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys
115 120 125

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu
130 135 140

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu
145 150 155 160

Pro Pro Arg

<210> 122
<211> 164
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 122

Met Lys Trp Lys Ala Leu Phe Thr Ala Ala Ile Leu Gln Ala Gln Leu
1 5 10 15

Pro Ile Thr Glu Ala Gln Ser Phe Gly Leu Leu Asp Pro Lys Leu Cys
20 25 30

Tyr Leu Leu Asp Gly Ile Leu Phe Ile Tyr Gly Val Ile Leu Thr Ala
35 40 45

Leu Phe Leu Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr
50 55 60

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg
65 70 75 80

Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met
85 90 95

Gly Gly Lys Pro Gln Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn

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100

105

110

Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met
115 120 125

Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly
130 135 140

Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala
145 150 155 160

Leu Pro Pro Arg

<210> 123
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 123

Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly
1 5 10 15

Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr
20 25 30

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

Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys
50 55 60

Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg
65 70 75 80

Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala
85 90 95

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Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
 100 105 110

<210> 124
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 124

Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp
 1 5 10 15

Val Leu Asp Lys Arg
 20

<210> 125
 <211> 22
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 125

Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr
 1 5 10 15

Ser Glu Ile Gly Met Lys
 20

<210> 126
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic polypeptide

<400> 126

Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp

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1 5 10 15

Ala Leu His Met Gln
20

<210> 127
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 127

Met Pro Gly Gly Pro Gly Val Leu Gln Ala Leu Pro Ala Thr Ile Phe
1 5 10 15

Leu Leu Phe Leu Leu Ser Ala Val Tyr Leu Gly Pro Gly Cys Gln Ala
20 25 30

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

Asp Ala His Phe Gln Cys Pro His Asn Ser Ser Asn Asn Ala Asn Val
50 55 60

Thr Trp Trp Arg Val Leu His Gly Asn Tyr Thr Trp Pro Pro Glu Phe
65 70 75 80

Leu Gly Pro Gly Glu Asp Pro Asn Gly Thr Leu Ile Ile Gln Asn Val
85 90 95

Asn Lys Ser His Gly Gly Ile Tyr Val Cys Arg Val Gln Glu Gly Asn
100 105 110

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

Pro Pro Arg Pro Phe Leu Asp Met Gly Glu Gly Thr Lys Asn Arg Ile
130 135 140

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Ile Thr Ala Glu Gly Ile Ile Leu Leu Phe Cys Ala Val Val Pro Gly
145 150 155 160

Thr Leu Leu Leu Phe Arg Lys Arg Trp Gln Asn Glu Lys Leu Gly Leu
165 170 175

Asp Ala Gly Asp Glu Tyr Glu Asp Glu Asn Leu Tyr Glu Gly Leu Asn
180 185 190

Leu Asp Asp Cys Ser Met Tyr Glu Asp Ile Ser Arg Gly Leu Gln Gly
195 200 205

Thr Tyr Gln Asp Val Gly Ser Leu Asn Ile Gly Asp Val Gln Leu Glu
210 215 220

Lys Pro
225

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<211> 188
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic polypeptide

<400> 128

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

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

Asp Ala His Phe Gln Cys Pro His Asn Ser Ser Asn Asn Ala Asn Val
50 55 60

Thr Trp Trp Arg Val Leu His Gly Asn Tyr Thr Trp Pro Pro Glu Phe

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65		70		75		80
Leu	Gly	Pro	Gly	Glu	Asp	Pro
			85			90
						95
Asp	Met	Gly	Glu	Gly	Thr	Lys
		100				105
						110
Ile	Leu	Leu	Phe	Cys	Ala	Val
	115					120
						125
Lys	Arg	Trp	Gln	Asn	Glu	Lys
	130					135
						140
Glu	Asp	Glu	Asn	Leu	Tyr	Glu
145					150	
						155
						160
Tyr	Glu	Asp	Ile	Ser	Arg	Gly
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						170
						175
Ser	Leu	Asn	Ile	Gly	Asp	Val
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						185
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						10
						15
Asp	Ile	Ser	Arg	Gly		
			20			
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<213> Artificial Sequence

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<223> synthetic polypeptide

<400> 130

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

Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly
		35					40					45			

Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala
	50					55					60				

Ala	Tyr	Arg	Ser
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<223> synthetic polypeptide

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<400> 132

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

Leu Phe Leu Leu Arg Gln Cys Leu Arg Ser Leu Gly Gly Tyr Val Leu
35 40 45

Ser Leu Val His Asp Val Arg Phe His His Phe Pro Ile Glu Arg Gln
50 55 60

Leu Asn Gly Thr Tyr Ala Ile Ala Gly Gly Lys Ala His Cys Gly Pro
65 70 75 80

Ala Glu Leu Cys Glu Phe Tyr Ser Arg Asp Pro Asp Gly Leu Pro Cys
85 90 95

Asn Leu Arg Lys Pro Cys Asn Arg Pro Ser Gly Leu Glu Pro Gln Pro
100 105 110

Gly Val Phe Asp Cys Leu Arg Asp Ala Met Val Arg Asp Tyr Val Arg
115 120 125

Gln Thr Trp Lys Leu Glu Gly Glu Ala Leu Glu Gln Ala Ile Ile Ser
130 135 140

Gln Ala Pro Gln Val Glu Lys Leu Ile Ala Thr Thr Ala His Glu Arg
145 150 155 160

Met Pro Trp Tyr His Ser Ser Leu Thr Arg Glu Glu Ala Glu Arg Lys
165 170 175

Leu Tyr Ser Gly Ala Gln Thr Asp Gly Lys Phe Leu Leu Arg Pro Arg
180 185 190

Lys Glu Gln Gly Thr Tyr Ala Leu Ser Leu Ile Tyr Gly Lys Thr Val

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200 205

195

Tyr His Tyr Leu Ile Ser Gln Asp Lys Ala Gly Lys Tyr Cys Ile Pro
210 215 220

Glu Gly Thr Lys Phe Asp Thr Leu Trp Gln Leu Val Glu Tyr Leu Lys
225 230 235 240

Leu Lys Ala Asp Gly Leu Ile Tyr Cys Leu Lys Glu Ala Cys Pro Asn
245 250 255

Ser Ser Ala Ser Asn Ala Ser Gly Ala Ala Ala Pro Thr Leu Pro Ala
260 265 270

His Pro Ser Thr Leu Thr His Pro Gln Arg Arg Ile Asp Thr Leu Asn
275 280 285

Ser Asp Gly Tyr Thr Pro Glu Pro Ala Arg Ile Thr Ser Pro Asp Lys
290 295 300

Pro Arg Pro Met Pro Met Asp Thr Ser Val Tyr Glu Ser Pro Tyr Ser
305 310 315 320

Asp Pro Glu Glu Leu Lys Asp Lys Lys Leu Phe Leu Lys Arg Asp Asn
325 330 335

Leu Leu Ile Ala Asp Ile Glu Leu Gly Cys Gly Asn Phe Gly Ser Val
340 345 350

Arg Gln Gly Val Tyr Arg Met Arg Lys Lys Gln Ile Asp Val Ala Ile
355 360 365

Lys Val Leu Lys Gln Gly Thr Glu Lys Ala Asp Thr Glu Glu Met Met
370 375 380

Arg Glu Ala Gln Ile Met His Gln Leu Asp Asn Pro Tyr Ile Val Arg
385 390 395 400

Leu Ile Gly Val Cys Gln Ala Glu Ala Leu Met Leu Val Met Glu Met

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405

410

415

Ala Gly Gly Gly Pro Leu His Lys Phe Leu Val Gly Lys Arg Glu Glu
 420 425 430

Ile Pro Val Ser Asn Val Ala Glu Leu Leu His Gln Val Ser Met Gly
 435 440 445

Met Lys Tyr Leu Glu Glu Lys Asn Phe Val His Arg Asp Leu Ala Ala
 450 455 460

Arg Asn Val Leu Leu Val Asn Arg His Tyr Ala Lys Ile Ser Asp Phe
 465 470 475 480

Gly Leu Ser Lys Ala Leu Gly Ala Asp Asp Ser Tyr Tyr Thr Ala Arg
 485 490 495

Ser Ala Gly Lys Trp Pro Leu Lys Trp Tyr Ala Pro Glu Cys Ile Asn
 500 505 510

Phe Arg Lys Phe Ser Ser Arg Ser Asp Val Trp Ser Tyr Gly Val Thr
 515 520 525

Met Trp Glu Ala Leu Ser Tyr Gly Gln Lys Pro Tyr Lys Lys Met Lys
 530 535 540

Gly Pro Glu Val Met Ala Phe Ile Glu Gln Gly Lys Arg Met Glu Cys
 545 550 555 560

Pro Pro Glu Cys Pro Pro Glu Leu Tyr Ala Leu Met Ser Asp Cys Trp
 565 570 575

Ile Tyr Lys Trp Glu Asp Arg Pro Asp Phe Leu Thr Val Glu Gln Arg
 580 585 590

Met Arg Ala Cys Tyr Tyr Ser Leu Ala Ser Lys Val Glu Gly Pro Pro
 595 600 605

Gly Ser Thr Gln Lys Ala Glu Ala Ala Cys Ala

610

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