

SEQUENCE LISTING

<110> THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE
SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES

<120> HLA CLASS II-RESTRICTED DRB T CELL RECEPTORS AGAINST RAS WITH
G12D MUTATION

<130> 754395

<150> US 63/050,931

<151> 2020-07-13

<160> 98

<170> PatentIn version 3.5

<210> 1

<211> 7

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<213> Homo sapiens

<400> 1

Thr Ser Asp Gln Ser Tyr Gly
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Gln Gly Ser Tyr Asp Glu Gln Asn
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Cys Ala Met Arg Glu Gly Pro Arg Gly Gly Gly Asn Lys Leu Thr Phe
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Asp Phe Gln Ala Thr Thr
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Ser Asn Glu Gly Ser Lys Ala
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Cys Ser Ala Asn Pro Ile Ala Ala Asn Ser Tyr Asn Glu Gln Phe
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<213> Homo sapiens

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Ala Gln Lys Ile Thr Gln Thr Gln Pro Gly Met Phe Val Gln Glu Lys
1 5 10 15

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

Gly Leu Phe Trp Tyr Lys Gln Pro Ser Ser Gly Glu Met Ile Phe Leu
35 40 45

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

Ser Leu Asn Phe Gln Lys Ala Arg Lys Ser Ala Asn Leu Val Ile Ser
65 70 75 80

Ala Ser Gln Leu Gly Asp Ser Ala Met Tyr Phe Cys Ala Met Arg Glu
85 90 95

Gly Pro Arg Gly Gly Gly Asn Lys Leu Thr Phe Gly Thr Gly Thr Gln
100 105 110

Leu Lys Val Glu Leu
115

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

Thr Ser Val Lys Ile Glu Cys Arg Ser Leu Asp Phe Gln Ala Thr Thr
20 25 30

Met Phe Trp Tyr Arg Gln Phe Pro Lys Gln Ser Leu Met Leu Met Ala
35 40 45

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

Asp Lys Phe Leu Ile Asn His Ala Ser Leu Thr Leu Ser Thr Leu Thr
65 70 75 80

Val Thr Ser Ala His Pro Glu Asp Ser Ser Phe Tyr Ile Cys Ser Ala
85 90 95

Asn Pro Ile Ala Ala Asn Ser Tyr Asn Glu Gln Phe Phe Gly Pro Gly
100 105 110

Thr Arg Leu Thr Val Leu
115

<210> 9

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Met Ser Leu Ser Ser Leu Leu Lys Val Val Thr Ala Ser Leu Trp Leu
1 5 10 15

Pro Gly Ile Ala Gln Lys Ile Thr Gln Thr Gln Pro Gly Met Phe Val
20 25 30

Gln Glu Lys Glu Ala Val Thr Leu Asp Cys Thr Tyr Asp Thr Ser Asp
35 40 45

Gln Ser Tyr Gly Leu Phe Trp Tyr Lys Gln Pro Ser Ser Gly Glu Met
50 55 60

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

Gly Arg Tyr Ser Leu Asn Phe Gln Lys Ala Arg Lys Ser Ala Asn Leu
85 90 95

Val Ile Ser Ala Ser Gln Leu Gly Asp Ser Ala Met Tyr Phe Cys Ala
100 105 110

Met Arg Glu Gly Pro Arg Gly Gly Gly Asn Lys Leu Thr Phe Gly Thr
115 120 125

Gly Thr Gln Leu Lys Val Glu Leu
130 135

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<400> 10

Met Ala Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

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

20

25

30

Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys Arg
 35 40 45

Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe Pro
 50 55 60

Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys Ala
 65 70 75 80

Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His Ala
 85 90 95

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
 100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Asn Pro Ile Ala Ala Asn Ser Tyr
 115 120 125

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

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Asp Phe Gln Ala Thr Thr
1 5

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<400> 15

Ser Asn Glu Gly Ser Lys Ala
1 5

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<400> 16

Cys Ser Ala Arg Asp Pro Ala Thr Asn Glu Lys Leu Phe
1 5 10

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<400> 17

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

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

Phe Pro Trp Tyr Lys Gln Glu Leu Gly Lys Gly Pro Gln Leu Ile Ile
35 40 45

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

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

Gln Pro Glu Asp Ser Ala Val Tyr Phe Cys Ala Ala Thr Ser Thr Asp
85 90 95

Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu
100 105 110

Thr Val Trp Pro
115

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<400> 18

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

Thr Ser Val Lys Ile Glu Cys Arg Ser Leu Asp Phe Gln Ala Thr Thr
20 25 30

Met Phe Trp Tyr Arg Gln Phe Pro Lys Gln Ser Leu Met Leu Met Ala
35 40 45

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

Asp Lys Phe Leu Ile Asn His Ala Ser Leu Thr Leu Ser Thr Leu Thr
65 70 75 80

Val Thr Ser Ala His Pro Glu Asp Ser Ser Phe Tyr Ile Cys Ser Ala
85 90 95

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

Leu Ser Val Leu
115

<210> 19
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<213> Homo sapiens

<400> 19

Met Thr Ser Ile Arg Ala Val Phe Ile Phe Leu Trp Leu Gln Leu Asp
1 5 10 15

Val Asn Gly Glu Asn Val Glu Gln His Pro Ser Thr Leu Ser Val Gln
20 25 30

Glu Gly Asp Ser Ala Val Ile Lys Cys Thr Tyr Ser Asp Ser Ala Ser
35 40 45

Asn Tyr Phe Pro Trp Tyr Lys Gln Glu Leu Gly Lys Gly Pro Gln Leu
50 55 60

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

Ala Val Thr Leu Asn Lys Thr Ala Lys His Phe Ser Leu His Ile Thr
85 90 95

Glu Thr Gln Pro Glu Asp Ser Ala Val Tyr Phe Cys Ala Ala Thr Ser
100 105 110

Thr Asp Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr
115 120 125

Gln Leu Thr Val Trp Pro
130

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<400> 20

Met Ala Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

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

Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys Arg
35 40 45

Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe Pro
50 55 60

Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys Ala
65 70 75 80

Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His Ala
85 90 95

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Arg Asp Pro Ala Thr Asn Glu Lys
115 120 125

Leu Phe Phe Gly Ser Gly Thr Gln Leu Ser Val Leu
130 135 140

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<400> 21

Thr Arg Asp Thr Thr Tyr Tyr
1 5

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Arg Asn Ser Phe Asp Glu Gln Asn
1 5

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Cys Ala Leu Ser Glu Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys
1 5 10 15

Leu Thr Phe

<210> 24
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<213> Homo sapiens

<400> 24

Ser Gly His Ala Thr
1 5

<210> 25
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<400> 25

Phe Gln Asn Asn Gly Val
1 5

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<400> 26

Cys Ala Ser Ser Leu Ala Leu Gly Gln Gly Asp Thr Glu Ala Phe
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<211> 120

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<213> Homo sapiens

<400> 27

Ala Gln Lys Val Thr Gln Ala Gln Thr Glu Ile Ser Val Val Glu Lys
1 5 10 15

Glu Asp Val Thr Leu Asp Cys Val Tyr Glu Thr Arg Asp Thr Thr Tyr
20 25 30

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

Ile Arg Arg Asn Ser Phe Asp Glu Gln Asn Glu Ile Ser Gly Arg Tyr
50 55 60

Ser Trp Asn Phe Gln Lys Ser Thr Ser Ser Phe Asn Phe Thr Ile Thr
65 70 75 80

Ala Ser Gln Val Val Asp Ser Ala Val Tyr Phe Cys Ala Leu Ser Glu
85 90 95

Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys Leu Thr Phe Gly Lys
100 105 110

Gly Thr Leu Leu Thr Val Asn Pro
115 120

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<212> PRT

<213> Homo sapiens

<400> 28

Glu Ala Gly Val Ala Gln Ser Pro Arg Tyr Lys Ile Ile Glu Lys Arg

1	5	10	15
Gln Ser Val	Ala Phe Trp Cys	Asn Pro Ile Ser Gly His	Ala Thr Leu
	20	25	30
Tyr Trp Tyr	Gln Gln Ile Leu	Gly Gln Gly Pro Lys	Leu Leu Ile Gln
	35	40	45
Phe Gln Asn	Asn Gly Val Val	Asp Asp Ser Gln	Leu Pro Lys Asp Arg
	50	55	60
Phe Ser Ala	Glu Arg Leu Lys	Gly Val Asp Ser Thr	Leu Lys Ile Gln
65	70	75	80
Pro Ala Lys	Leu Glu Asp Ser	Ala Val Tyr Leu	Cys Ala Ser Ser Leu
	85	90	95
Ala Leu Gly	Gln Gly Asp Thr	Glu Ala Phe Phe	Gly Gln Gly Thr Arg
	100	105	110
Leu Thr Val	Val		
	115		

<210> 29
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 <213> Homo sapiens

<400> 29

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

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

Gly Arg Tyr Ser Trp Asn Phe Gln Lys Ser Thr Ser Ser Phe Asn Phe
85 90 95

Thr Ile Thr Ala Ser Gln Val Val Asp Ser Ala Val Tyr Phe Cys Ala
100 105 110

Leu Ser Glu Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys Leu Thr
115 120 125

Phe Gly Lys Gly Thr Leu Leu Thr Val Asn Pro
130 135

<210> 30
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<213> Homo sapiens

<400> 30

Met Ala Thr Arg Leu Leu Cys Trp Ala Ala Leu Cys Leu Leu Gly Ala
1 5 10 15

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

Lys Arg Gln Ser Val Ala Phe Trp Cys Asn Pro Ile Ser Gly His Ala
35 40 45

Thr Leu Tyr Trp Tyr Gln Gln Ile Leu Gly Gln Gly Pro Lys Leu Leu
50 55 60

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

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

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

Ser Leu Ala Leu Gly Gln Gly Asp Thr Glu Ala Phe Phe Gly Gln Gly
115 120 125

Thr Arg Leu Thr Val Val
130

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<400> 31

Thr Ser Gly Phe Asn Gly
1 5

<210> 32
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<213> Homo sapiens

<400> 32

Asn Val Leu Asp Gly Leu
1 5

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<400> 33

Cys Ala Val Phe Ser Ser Gly Ser Ala Arg Gln Leu Thr Phe
1 5 10

<210> 34
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<400> 34

Leu Gly His Asn Ala
1 5

<210> 35

<211> 6
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<213> Homo sapiens

<400> 35

Tyr Asn Phe Lys Glu Gln
1 5

<210> 36
<211> 15
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<213> Homo sapiens

<400> 36

Cys Ala Ser Ser Gln Ala Trp Gly Gly Ala Asp Gly Glu Leu Phe
1 5 10 15

<210> 37
<211> 111
<212> PRT
<213> Homo sapiens

<400> 37

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

Ile Val Gln Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly Leu
20 25 30

Phe Trp Tyr Gln Gln His Ala Gly Glu Ala Pro Thr Phe Leu Ser Tyr
35 40 45

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

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

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

Arg Gln Leu Thr Phe Gly Ser Gly Thr Gln Leu Thr Val Leu Pro
100 105 110

<210> 38
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<212> PRT
<213> Homo sapiens

<400> 38

Glu Thr Gly Val Thr Gln Thr Pro Arg His Leu Val Met Gly Met Thr
1 5 10 15

Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His Asn Ala Met
20 25 30

Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu Met Phe Val
35 40 45

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

Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His Leu His Thr
65 70 75 80

Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Gln Ala
85 90 95

Trp Gly Gly Ala Asp Gly Glu Leu Phe Phe Gly Glu Gly Ser Arg Leu
100 105 110

Thr Val Leu
115

<210> 39
<211> 127
<212> PRT
<213> Homo sapiens

<400> 39

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

Gly Gln Asn Ile Asp Gln Pro Thr Glu Met Thr Ala Thr Glu Gly Ala
20 25 30

Ile Val Gln Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly Leu
35 40 45

Phe Trp Tyr Gln Gln His Ala Gly Glu Ala Pro Thr Phe Leu Ser Tyr
50 55 60

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

Ser Arg Ser Lys Gly Tyr Ser Tyr Leu Leu Leu Lys Glu Leu Gln Met
85 90 95

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

Arg Gln Leu Thr Phe Gly Ser Gly Thr Gln Leu Thr Val Leu Pro
115 120 125

<210> 40
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<212> PRT
<213> Homo sapiens

<400> 40

Met Ala Cys Arg Leu Leu Cys Cys Ala Val Leu Cys Leu Leu Gly Ala
1 5 10 15

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

Met Thr Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His Asn
35 40 45

Ala Met Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu Met
50 55 60

Phe Val Tyr Asn Phe Lys Glu Gln Thr Glu Asn Asn Ser Val Pro Ser
65 70 75 80

Arg Phe Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His Leu

85

90

95

His Thr Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser
 100 105 110

Gln Ala Trp Gly Gly Ala Asp Gly Glu Leu Phe Phe Gly Glu Gly Ser
 115 120 125

Arg Leu Thr Val Leu
 130

<210> 41
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 <213> Homo sapiens

<400> 41

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
 20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
 35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
 50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
 65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
 85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
 100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
 115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Arg Val Glu Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Gln Tyr Arg Leu Lys Lys Ile Ser Lys Glu Glu Lys
165 170 175

Thr Pro Gly Cys Val Lys Ile Lys Lys Cys Ile Ile Met
180 185

<210> 42
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<213> Homo sapiens

<400> 42

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Lys Lys
165 170 175

Lys Lys Lys Lys Ser Lys Thr Lys Cys Val Ile Met
180 185

<210> 43
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<213> Homo sapiens

<400> 43

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His Gln Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Asp Asp Val Pro Met Val
100 105 110

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

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

Ser Ala Lys Thr Arg Gln Gly Val Glu Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Gln His Lys Leu Arg Lys Leu Asn Pro Pro Asp Glu
165 170 175

Ser Gly Pro Gly Cys Met Ser Cys Lys Cys Val Leu Ser
180 185

<210> 44
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<212> PRT
<213> Homo sapiens

<400> 44

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Ser Lys Ser Phe Ala Asp Ile Asn Leu Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Asp Asp Val Pro Met Val
100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Thr Arg Thr Val Asp Thr Lys

115

120

125

Gln Ala His Glu Leu Ala Lys Ser Tyr Gly Ile Pro Phe Ile Glu Thr
 130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Glu Asp Ala Phe Tyr Thr Leu Val
 145 150 155 160

Arg Glu Ile Arg Gln Tyr Arg Met Lys Lys Leu Asn Ser Ser Asp Asp
 165 170 175

Gly Thr Gln Gly Cys Met Gly Leu Pro Cys Val Val Met
 180 185

<210> 45
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<400> 45

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
 20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
 35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
 50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
 65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
 85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
 100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Arg Val Glu Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Gln Tyr Arg Leu Lys Lys Ile Ser Lys Glu Glu Lys
165 170 175

Thr Pro Gly Cys Val Lys Ile Lys Lys Cys Ile Ile Met
180 185

<210> 46
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<400> 46

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Lys Lys
165 170 175

Lys Lys Lys Lys Ser Lys Thr Lys Cys Val Ile Met
180 185

<210> 47
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<400> 47

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His Gln Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Asp Asp Val Pro Met Val
100 105 110

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

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

Ser Ala Lys Thr Arg Gln Gly Val Glu Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Gln His Lys Leu Arg Lys Leu Asn Pro Pro Asp Glu
165 170 175

Ser Gly Pro Gly Cys Met Ser Cys Lys Cys Val Leu Ser
180 185

<210> 48
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<212> PRT
<213> Homo sapiens

<400> 48

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

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Ser Lys Ser Phe Ala Asp Ile Asn Leu Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Asp Asp Val Pro Met Val

100

105

110

Leu Val Gly Asn Lys Cys Asp Leu Pro Thr Arg Thr Val Asp Thr Lys
115 120 125

Gln Ala His Glu Leu Ala Lys Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Glu Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Gln Tyr Arg Met Lys Lys Leu Asn Ser Ser Asp Asp
165 170 175

Gly Thr Gln Gly Cys Met Gly Leu Pro Cys Val Val Met
180 185

<210> 49
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (48)..(48)
<223> X is Thr or Cys

<220>
<221> MISC_FEATURE
<222> (112)..(112)
<223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
<221> MISC_FEATURE
<222> (114)..(114)
<223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
<221> MISC_FEATURE
<222> (115)..(115)
<223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 49

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

Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile
20 25 30

Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Xaa
35 40 45

Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala
50 55 60

Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr
65 70 75 80

Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr
85 90 95

Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Xaa
100 105 110

Val Xaa Xaa Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu
115 120 125

Leu Met Thr Leu Arg Leu Trp Ser Ser
130 135

<210> 50
<211> 173
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (57)..(57)
<223> X is Ser or Cys

<400> 50

Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro
1 5 10 15

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

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

Gly Lys Glu Val His Ser Gly Val Xaa Thr Asp Pro Gln Ala Tyr Lys
50 55 60

Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala
65 70 75 80

Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe
85 90 95

His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro
100 105 110

Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly
115 120 125

Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu
130 135 140

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

Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser
165 170

<210> 51
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 51

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

Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile
20 25 30

Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Cys
35 40 45

Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala
50 55 60

Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr
65 70 75 80

Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr
85 90 95

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

Val Ile Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu
115 120 125

Leu Met Thr Leu Arg Leu Trp Ser Ser
130 135

<210> 52
<211> 173
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 52

Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro
1 5 10 15

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

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

Gly Lys Glu Val His Ser Gly Val Cys Thr Asp Pro Gln Ala Tyr Lys
50 55 60

Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala
65 70 75 80

Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe
85 90 95

His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro
100 105 110

Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly
115 120 125

Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu
130 135 140

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

Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser
165 170

<210> 53
<211> 137
<212> PRT
<213> Mus musculus

<400> 53

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

Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile
20 25 30

Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Thr
35 40 45

Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala

50

55

60

Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr
65 70 75 80

Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr
85 90 95

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

Val Met Gly Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu
115 120 125

Leu Met Thr Leu Arg Leu Trp Ser Ser
130 135

<210> 54
<211> 173
<212> PRT
<213> Mus musculus

<400> 54

Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro
1 5 10 15

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

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

Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Ala Tyr Lys
50 55 60

Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala
65 70 75 80

Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe
85 90 95

His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro
100 105 110

Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly
115 120 125

Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu
130 135 140

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

Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser
165 170

<210> 55
<211> 273
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (184)..(184)
<223> X is Thr or Cys

<220>
<221> MISC_FEATURE
<222> (248)..(248)
<223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
<221> MISC_FEATURE
<222> (250)..(250)
<223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
<221> MISC_FEATURE
<222> (251)..(251)
<223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 55

Met Ser Leu Ser Ser Leu Leu Lys Val Val Thr Ala Ser Leu Trp Leu
1 5 10 15

Pro Gly Ile Ala Gln Lys Ile Thr Gln Thr Gln Pro Gly Met Phe Val
20 25 30

Gln Glu Lys Glu Ala Val Thr Leu Asp Cys Thr Tyr Asp Thr Ser Asp
35 40 45

Gln Ser Tyr Gly Leu Phe Trp Tyr Lys Gln Pro Ser Ser Gly Glu Met
50 55 60

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

Gly Arg Tyr Ser Leu Asn Phe Gln Lys Ala Arg Lys Ser Ala Asn Leu
85 90 95

Val Ile Ser Ala Ser Gln Leu Gly Asp Ser Ala Met Tyr Phe Cys Ala
100 105 110

Met Arg Glu Gly Pro Arg Gly Gly Gly Asn Lys Leu Thr Phe Gly Thr
115 120 125

Gly Thr Gln Leu Lys Val Glu Leu Asn Ile Gln Asn Pro Glu Pro Ala
130 135 140

Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu
145 150 155 160

Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser
165 170 175

Gly Thr Phe Ile Thr Asp Lys Xaa Val Leu Asp Met Lys Ala Met Asp
180 185 190

Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr
195 200 205

Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp
210 215 220

Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met

225					230					235					240
Asn	Leu	Asn	Phe	Gln	Asn	Leu	Xaa	Val	Xaa	Xaa	Leu	Arg	Ile	Leu	Leu
			245						250					255	
Leu	Lys	Val	Ala	Gly	Phe	Asn	Leu	Leu	Met	Thr	Leu	Arg	Leu	Trp	Ser
			260					265					270		
Ser															
<210>	56														
<211>	315														
<212>	PRT														
<213>	Artificial Sequence														
<220>															
<223>	Synthetic														
<220>															
<221>	MISC_FEATURE														
<222>	(199)..(199)														
<223>	X is is Ser or Cys														
<400>	56														
Met	Ala	Leu	Leu	Leu	Leu	Leu	Leu	Gly	Pro	Gly	Ile	Ser	Leu	Leu	Leu
1			5					10					15		
Pro	Gly	Ser	Leu	Gly	Ser	Gly	Leu	Gly	Ala	Val	Val	Ser	Gln	His	Pro
			20					25					30		
Ser	Trp	Val	Ile	Cys	Lys	Ser	Gly	Thr	Ser	Val	Lys	Ile	Glu	Cys	Arg
		35					40					45			
Ser	Leu	Asp	Phe	Gln	Ala	Thr	Thr	Met	Phe	Trp	Tyr	Arg	Gln	Phe	Pro
	50					55					60				
Lys	Gln	Ser	Leu	Met	Leu	Met	Ala	Thr	Ser	Asn	Glu	Gly	Ser	Lys	Ala
65				70						75					80
Thr	Tyr	Glu	Gln	Gly	Val	Glu	Lys	Asp	Lys	Phe	Leu	Ile	Asn	His	Ala
				85					90					95	

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Asn Pro Ile Ala Ala Asn Ser Tyr
115 120 125

Asn Glu Gln Phe Phe Gly Pro Gly Thr Arg Leu Thr Val Leu Glu Asp
130 135 140

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

Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu Ala Arg
165 170 175

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

Glu Val His Ser Gly Val Xaa Thr Asp Pro Gln Ala Tyr Lys Glu Ser
195 200 205

Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe
210 215 220

Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe His Gly
225 230 235 240

Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro Val Thr
245 250 255

Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr
260 265 270

Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu
275 280 285

Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser Thr Leu
290 295 300

Val Val Met Ala Met Val Lys Arg Lys Asn Ser

305

310

315

<210> 57
 <211> 254
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic

<220>
 <221> MISC_FEATURE
 <222> (165)..(165)
 <223> X is Thr or Cys

<220>
 <221> MISC_FEATURE
 <222> (229)..(229)
 <223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
 <221> MISC_FEATURE
 <222> (231)..(231)
 <223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
 <221> MISC_FEATURE
 <222> (232)..(232)
 <223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 57

Ala Gln Lys Ile Thr Gln Thr Gln Pro Gly Met Phe Val Gln Glu Lys
 1 5 10 15

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

Gly Leu Phe Trp Tyr Lys Gln Pro Ser Ser Gly Glu Met Ile Phe Leu
 35 40 45

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

Ser Leu Asn Phe Gln Lys Ala Arg Lys Ser Ala Asn Leu Val Ile Ser
 65 70 75 80

Ala Ser Gln Leu Gly Asp Ser Ala Met Tyr Phe Cys Ala Met Arg Glu
85 90 95

Gly Pro Arg Gly Gly Gly Asn Lys Leu Thr Phe Gly Thr Gly Thr Gln
100 105 110

Leu Lys Val Glu Leu Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln
115 120 125

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

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

Ile Thr Asp Lys Xaa Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser
165 170 175

Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp
180 185 190

Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys
195 200 205

Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn
210 215 220

Phe Gln Asn Leu Xaa Val Xaa Xaa Leu Arg Ile Leu Leu Leu Lys Val
225 230 235 240

Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
245 250

<210> 58
<211> 291
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>

<221> MISC_FEATURE

<222> (175)..(175)

<223> X is Ser or Cys

<400> 58

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

Thr Ser Val Lys Ile Glu Cys Arg Ser Leu Asp Phe Gln Ala Thr Thr
20 25 30

Met Phe Trp Tyr Arg Gln Phe Pro Lys Gln Ser Leu Met Leu Met Ala
35 40 45

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

Asp Lys Phe Leu Ile Asn His Ala Ser Leu Thr Leu Ser Thr Leu Thr
65 70 75 80

Val Thr Ser Ala His Pro Glu Asp Ser Ser Phe Tyr Ile Cys Ser Ala
85 90 95

Asn Pro Ile Ala Ala Asn Ser Tyr Asn Glu Gln Phe Phe Gly Pro Gly
100 105 110

Thr Arg Leu Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys
115 120 125

Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys
130 135 140

Ala Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu
145 150 155 160

Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Xaa Thr
165 170 175

Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser
180 185 190

Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe
195 200 205

Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro
210 215 220

Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp
225 230 235 240

Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val
245 250 255

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
260 265 270

Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg
275 280 285

Lys Asn Ser
290

<210> 59
<211> 273
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 59

Met Ser Leu Ser Ser Leu Leu Lys Val Val Thr Ala Ser Leu Trp Leu
1 5 10 15

Pro Gly Ile Ala Gln Lys Ile Thr Gln Thr Gln Pro Gly Met Phe Val
20 25 30

Gln Glu Lys Glu Ala Val Thr Leu Asp Cys Thr Tyr Asp Thr Ser Asp
35 40 45

Gln Ser Tyr Gly Leu Phe Trp Tyr Lys Gln Pro Ser Ser Gly Glu Met
50 55 60

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

Gly Arg Tyr Ser Leu Asn Phe Gln Lys Ala Arg Lys Ser Ala Asn Leu
85 90 95

Val Ile Ser Ala Ser Gln Leu Gly Asp Ser Ala Met Tyr Phe Cys Ala
100 105 110

Met Arg Glu Gly Pro Arg Gly Gly Gly Asn Lys Leu Thr Phe Gly Thr
115 120 125

Gly Thr Gln Leu Lys Val Glu Leu Asn Ile Gln Asn Pro Glu Pro Ala
130 135 140

Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu
145 150 155 160

Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser
165 170 175

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

Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr
195 200 205

Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp
210 215 220

Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met
225 230 235 240

Asn Leu Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile Leu Leu
245 250 255

Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser
260 265 270

Ser

<210> 60
<211> 315
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 60

Met Ala Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

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

Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys Arg
35 40 45

Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe Pro
50 55 60

Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys Ala
65 70 75 80

Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His Ala
85 90 95

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Asn Pro Ile Ala Ala Asn Ser Tyr
115 120 125

Asn Glu Gln Phe Phe Gly Pro Gly Thr Arg Leu Thr Val Leu Glu Asp
130 135 140

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

Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu Ala Arg
165 170 175

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

Glu Val His Ser Gly Val Cys Thr Asp Pro Gln Ala Tyr Lys Glu Ser
195 200 205

Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe
210 215 220

Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe His Gly
225 230 235 240

Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro Val Thr
245 250 255

Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr
260 265 270

Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu
275 280 285

Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser Thr Leu
290 295 300

Val Val Met Ala Met Val Lys Arg Lys Asn Ser
305 310 315

<210> 61
<211> 254
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 61

Ala Gln Lys Ile Thr Gln Thr Gln Pro Gly Met Phe Val Gln Glu Lys
1 5 10 15

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

Gly Leu Phe Trp Tyr Lys Gln Pro Ser Ser Gly Glu Met Ile Phe Leu
35 40 45

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

Ser Leu Asn Phe Gln Lys Ala Arg Lys Ser Ala Asn Leu Val Ile Ser
65 70 75 80

Ala Ser Gln Leu Gly Asp Ser Ala Met Tyr Phe Cys Ala Met Arg Glu
85 90 95

Gly Pro Arg Gly Gly Gly Asn Lys Leu Thr Phe Gly Thr Gly Thr Gln
100 105 110

Leu Lys Val Glu Leu Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln
115 120 125

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

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

Ile Thr Asp Lys Cys Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser
165 170 175

Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp
180 185 190

Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys
195 200 205

Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn
210 215 220

Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile Leu Leu Leu Lys Val
225 230 235 240

Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
245 250

<210> 62
<211> 291
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 62

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

Thr Ser Val Lys Ile Glu Cys Arg Ser Leu Asp Phe Gln Ala Thr Thr
20 25 30

Met Phe Trp Tyr Arg Gln Phe Pro Lys Gln Ser Leu Met Leu Met Ala
35 40 45

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

Asp Lys Phe Leu Ile Asn His Ala Ser Leu Thr Leu Ser Thr Leu Thr
65 70 75 80

Val Thr Ser Ala His Pro Glu Asp Ser Ser Phe Tyr Ile Cys Ser Ala
85 90 95

Asn Pro Ile Ala Ala Asn Ser Tyr Asn Glu Gln Phe Phe Gly Pro Gly
100 105 110

Thr Arg Leu Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys
115 120 125

Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys
130 135 140

Ala Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu
145 150 155 160

Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr
165 170 175

Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser
180 185 190

Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe
195 200 205

Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro
210 215 220

Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp
225 230 235 240

Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val
245 250 255

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
260 265 270

Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg
275 280 285

Lys Asn Ser
290

<210> 63
<211> 271
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (182)..(182)
<223> X is Thr or Cys

<220>
<221> MISC_FEATURE
<222> (246)..(246)
<223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>

<221> MISC_FEATURE

<222> (248)..(248)

<223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>

<221> MISC_FEATURE

<222> (249)..(249)

<223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 63

Met Thr Ser Ile Arg Ala Val Phe Ile Phe Leu Trp Leu Gln Leu Asp
1 5 10 15

Val Asn Gly Glu Asn Val Glu Gln His Pro Ser Thr Leu Ser Val Gln
20 25 30

Glu Gly Asp Ser Ala Val Ile Lys Cys Thr Tyr Ser Asp Ser Ala Ser
35 40 45

Asn Tyr Phe Pro Trp Tyr Lys Gln Glu Leu Gly Lys Gly Pro Gln Leu
50 55 60

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

Ala Val Thr Leu Asn Lys Thr Ala Lys His Phe Ser Leu His Ile Thr
85 90 95

Glu Thr Gln Pro Glu Asp Ser Ala Val Tyr Phe Cys Ala Ala Thr Ser
100 105 110

Thr Asp Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr
115 120 125

Gln Leu Thr Val Trp Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr
130 135 140

Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr
145 150 155 160

Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr

165

170

175

Phe Ile Thr Asp Lys Xaa Val Leu Asp Met Lys Ala Met Asp Ser Lys
 180 185 190

Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln
 195 200 205

Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro
 210 215 220

Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu
 225 230 235 240

Asn Phe Gln Asn Leu Xaa Val Xaa Xaa Leu Arg Ile Leu Leu Leu Lys
 245 250 255

Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
 260 265 270

<210> 64
 <211> 313
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic

<220>
 <221> MISC_FEATURE
 <222> (197)..(197)
 <223> X is Ser or Cys

<400> 64

Met Ala Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
 1 5 10 15

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

Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys Arg
 35 40 45

Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe Pro
50 55 60

Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys Ala
65 70 75 80

Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His Ala
85 90 95

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Arg Asp Pro Ala Thr Asn Glu Lys
115 120 125

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

Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro Ser Lys Ala Glu
145 150 155 160

Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu Ala Arg Gly Phe
165 170 175

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

His Ser Gly Val Xaa Thr Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr
195 200 205

Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp His
210 215 220

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

Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro Val Thr Gln Asn
245 250 255

Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala

260

265

270

Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu
 275 280 285

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

Met Ala Met Val Lys Arg Lys Asn Ser
 305 310

<210> 65
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic

<220>
 <221> MISC_FEATURE
 <222> (164)..(164)
 <223> X is Thr or Cys

<220>
 <221> MISC_FEATURE
 <222> (228)..(228)
 <223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
 <221> MISC_FEATURE
 <222> (230)..(230)
 <223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
 <221> MISC_FEATURE
 <222> (231)..(231)
 <223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 65

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

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

Phe Pro Trp Tyr Lys Gln Glu Leu Gly Lys Gly Pro Gln Leu Ile Ile
35 40 45

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

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

Gln Pro Glu Asp Ser Ala Val Tyr Phe Cys Ala Ala Thr Ser Thr Asp
85 90 95

Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu
100 105 110

Thr Val Trp Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu
115 120 125

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

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

Thr Asp Lys Xaa Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn
165 170 175

Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile
180 185 190

Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp
195 200 205

Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe
210 215 220

Gln Asn Leu Xaa Val Xaa Xaa Leu Arg Ile Leu Leu Leu Lys Val Ala
225 230 235 240

Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
245 250

<210> 66
<211> 289
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (173)..(173)
<223> X is Ser or Cys

<400> 66

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

Thr Ser Val Lys Ile Glu Cys Arg Ser Leu Asp Phe Gln Ala Thr Thr
20 25 30

Met Phe Trp Tyr Arg Gln Phe Pro Lys Gln Ser Leu Met Leu Met Ala
35 40 45

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

Asp Lys Phe Leu Ile Asn His Ala Ser Leu Thr Leu Ser Thr Leu Thr
65 70 75 80

Val Thr Ser Ala His Pro Glu Asp Ser Ser Phe Tyr Ile Cys Ser Ala
85 90 95

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

Leu Ser Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser
115 120 125

Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr
130 135 140

Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser
145 150 155 160

Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Xaa Thr Asp Pro
165 170 175

Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu
180 185 190

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

Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly
210 215 220

Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg
225 230 235 240

Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser
245 250 255

Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala
260 265 270

Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn
275 280 285

Ser

<210> 67
<211> 271
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 67

Met Thr Ser Ile Arg Ala Val Phe Ile Phe Leu Trp Leu Gln Leu Asp
1 5 10 15

Val Asn Gly Glu Asn Val Glu Gln His Pro Ser Thr Leu Ser Val Gln
20 25 30

Glu Gly Asp Ser Ala Val Ile Lys Cys Thr Tyr Ser Asp Ser Ala Ser
35 40 45

Asn Tyr Phe Pro Trp Tyr Lys Gln Glu Leu Gly Lys Gly Pro Gln Leu
50 55 60

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

Ala Val Thr Leu Asn Lys Thr Ala Lys His Phe Ser Leu His Ile Thr
85 90 95

Glu Thr Gln Pro Glu Asp Ser Ala Val Tyr Phe Cys Ala Ala Thr Ser
100 105 110

Thr Asp Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr
115 120 125

Gln Leu Thr Val Trp Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr
130 135 140

Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr
145 150 155 160

Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr
165 170 175

Phe Ile Thr Asp Lys Cys Val Leu Asp Met Lys Ala Met Asp Ser Lys
180 185 190

Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln
195 200 205

Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro
210 215 220

Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu
225 230 235 240

Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile Leu Leu Leu Lys
245 250 255

Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
260 265 270

<210> 68
<211> 313
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 68

Met Ala Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

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

Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys Arg
35 40 45

Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe Pro
50 55 60

Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys Ala
65 70 75 80

Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His Ala
85 90 95

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Arg Asp Pro Ala Thr Asn Glu Lys
115 120 125

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

Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro Ser Lys Ala Glu
145 150 155 160

Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu Ala Arg Gly Phe
165 170 175

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

His Ser Gly Val Cys Thr Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr
195 200 205

Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp His
210 215 220

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

Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro Val Thr Gln Asn
245 250 255

Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala
260 265 270

Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu
275 280 285

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

Met Ala Met Val Lys Arg Lys Asn Ser
305 310

<210> 69
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 69

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

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

Phe Pro Trp Tyr Lys Gln Glu Leu Gly Lys Gly Pro Gln Leu Ile Ile
35 40 45

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

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

Gln Pro Glu Asp Ser Ala Val Tyr Phe Cys Ala Ala Thr Ser Thr Asp
85 90 95

Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe Gly Arg Gly Thr Gln Leu
100 105 110

Thr Val Trp Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu
115 120 125

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

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

Thr Asp Lys Cys Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn
165 170 175

Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile
180 185 190

Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp
195 200 205

Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe
210 215 220

Gln Asn Leu Leu Val Ile Val Leu Arg Ile Leu Leu Leu Lys Val Ala
225 230 235 240

Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
245 250

<210> 70
<211> 289
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 70

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

Thr Ser Val Lys Ile Glu Cys Arg Ser Leu Asp Phe Gln Ala Thr Thr
20 25 30

Met Phe Trp Tyr Arg Gln Phe Pro Lys Gln Ser Leu Met Leu Met Ala
35 40 45

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

Asp Lys Phe Leu Ile Asn His Ala Ser Leu Thr Leu Ser Thr Leu Thr
65 70 75 80

Val Thr Ser Ala His Pro Glu Asp Ser Ser Phe Tyr Ile Cys Ser Ala
85 90 95

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

Leu Ser Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser
115 120 125

Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr
130 135 140

Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser
145 150 155 160

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

Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu
180 185 190

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

Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly
210 215 220

Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg
225 230 235 240

Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser
245 250 255

Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala
260 265 270

Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn
275 280 285

Ser

<210> 71
<211> 276
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>

<221> MISC_FEATURE
<222> (187)..(187)
<223> X is Thr or Cys

<220>
<221> MISC_FEATURE
<222> (251)..(251)
<223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
<221> MISC_FEATURE
<222> (253)..(253)
<223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
<221> MISC_FEATURE
<222> (254)..(254)
<223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 71

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

Ser Ser Met Ala Gln Lys Val Thr Gln Ala Gln Thr Glu Ile Ser Val
20 25 30

Val Glu Lys Glu Asp Val Thr Leu Asp Cys Val Tyr Glu Thr Arg Asp
35 40 45

Thr Thr Tyr Tyr Leu Phe Trp Tyr Lys Gln Pro Pro Ser Gly Glu Leu
50 55 60

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

Gly Arg Tyr Ser Trp Asn Phe Gln Lys Ser Thr Ser Ser Phe Asn Phe
85 90 95

Thr Ile Thr Ala Ser Gln Val Val Asp Ser Ala Val Tyr Phe Cys Ala
100 105 110

Leu Ser Glu Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys Leu Thr
115 120 125

Phe Gly Lys Gly Thr Leu Leu Thr Val Asn Pro Asn Ile Gln Asn Pro

130

135

140

Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr
 145 150 155 160

Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr
 165 170 175

Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Xaa Val Leu Asp Met Lys
 180 185 190

Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr
 195 200 205

Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro
 210 215 220

Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu
 225 230 235 240

Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Xaa Val Xaa Xaa Leu Arg
 245 250 255

Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg
 260 265 270

Leu Trp Ser Ser
 275

<210> 72
 <211> 307
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic

<220>
 <221> MISC_FEATURE
 <222> (191)..(191)
 <223> X is Ser or Cys

<400> 72

Met Ala Thr Arg Leu Leu Cys Trp Ala Ala Leu Cys Leu Leu Gly Ala
1 5 10 15

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

Lys Arg Gln Ser Val Ala Phe Trp Cys Asn Pro Ile Ser Gly His Ala
35 40 45

Thr Leu Tyr Trp Tyr Gln Gln Ile Leu Gly Gln Gly Pro Lys Leu Leu
50 55 60

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

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

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

Ser Leu Ala Leu Gly Gln Gly Asp Thr Glu Ala Phe Phe Gly Gln Gly
115 120 125

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

Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys
145 150 155 160

Ala Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu
165 170 175

Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Xaa Thr
180 185 190

Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser
195 200 205

Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe

210

215

220

Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro
 225 230 235 240

Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp
 245 250 255

Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val
 260 265 270

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
 275 280 285

Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg
 290 295 300

Lys Asn Ser
 305

<210> 73
 <211> 257
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic

<220>
 <221> MISC_FEATURE
 <222> (168)..(168)
 <223> X is Thr or Cys

<220>
 <221> MISC_FEATURE
 <222> (232)..(232)
 <223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
 <221> MISC_FEATURE
 <222> (234)..(234)
 <223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
 <221> MISC_FEATURE
 <222> (235)..(235)

<223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 73

Ala Gln Lys Val Thr Gln Ala Gln Thr Glu Ile Ser Val Val Glu Lys
1 5 10 15

Glu Asp Val Thr Leu Asp Cys Val Tyr Glu Thr Arg Asp Thr Thr Tyr
20 25 30

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

Ile Arg Arg Asn Ser Phe Asp Glu Gln Asn Glu Ile Ser Gly Arg Tyr
50 55 60

Ser Trp Asn Phe Gln Lys Ser Thr Ser Ser Phe Asn Phe Thr Ile Thr
65 70 75 80

Ala Ser Gln Val Val Asp Ser Ala Val Tyr Phe Cys Ala Leu Ser Glu
85 90 95

Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys Leu Thr Phe Gly Lys
100 105 110

Gly Thr Leu Leu Thr Val Asn Pro Asn Ile Gln Asn Pro Glu Pro Ala
115 120 125

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

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

Gly Thr Phe Ile Thr Asp Lys Xaa Val Leu Asp Met Lys Ala Met Asp
165 170 175

Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr
180 185 190

Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp
195 200 205

Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met
210 215 220

Asn Leu Asn Phe Gln Asn Leu Xaa Val Xaa Xaa Leu Arg Ile Leu Leu
225 230 235 240

Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser
245 250 255

Ser

<210> 74
<211> 289
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (173)..(173)
<223> X is Ser or Cys

<400> 74

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

Gln Ser Val Ala Phe Trp Cys Asn Pro Ile Ser Gly His Ala Thr Leu
20 25 30

Tyr Trp Tyr Gln Gln Ile Leu Gly Gln Gly Pro Lys Leu Leu Ile Gln
35 40 45

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

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

Pro Ala Lys Leu Glu Asp Ser Ala Val Tyr Leu Cys Ala Ser Ser Leu
85 90 95

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

Leu Thr Val Val Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser
115 120 125

Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr
130 135 140

Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser
145 150 155 160

Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Xaa Thr Asp Pro
165 170 175

Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu
180 185 190

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

Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly
210 215 220

Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg
225 230 235 240

Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser
245 250 255

Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala
260 265 270

Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn
275 280 285

Ser

<210> 75
<211> 276
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 75

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

Ser Ser Met Ala Gln Lys Val Thr Gln Ala Gln Thr Glu Ile Ser Val
20 25 30

Val Glu Lys Glu Asp Val Thr Leu Asp Cys Val Tyr Glu Thr Arg Asp
35 40 45

Thr Thr Tyr Tyr Leu Phe Trp Tyr Lys Gln Pro Pro Ser Gly Glu Leu
50 55 60

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

Gly Arg Tyr Ser Trp Asn Phe Gln Lys Ser Thr Ser Ser Phe Asn Phe
85 90 95

Thr Ile Thr Ala Ser Gln Val Val Asp Ser Ala Val Tyr Phe Cys Ala
100 105 110

Leu Ser Glu Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys Leu Thr
115 120 125

Phe Gly Lys Gly Thr Leu Leu Thr Val Asn Pro Asn Ile Gln Asn Pro
130 135 140

Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr
145 150 155 160

Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr
165 170 175

Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Cys Val Leu Asp Met Lys
180 185 190

Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr
195 200 205

Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro
210 215 220

Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu
225 230 235 240

Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg
245 250 255

Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg
260 265 270

Leu Trp Ser Ser
275

<210> 76
<211> 307
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 76

Met Ala Thr Arg Leu Leu Cys Trp Ala Ala Leu Cys Leu Leu Gly Ala
1 5 10 15

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

Lys Arg Gln Ser Val Ala Phe Trp Cys Asn Pro Ile Ser Gly His Ala
35 40 45

Thr Leu Tyr Trp Tyr Gln Gln Ile Leu Gly Gln Gly Pro Lys Leu Leu
50 55 60

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

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

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

Ser Leu Ala Leu Gly Gln Gly Asp Thr Glu Ala Phe Phe Gly Gln Gly
115 120 125

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

Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys
145 150 155 160

Ala Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu
165 170 175

Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr
180 185 190

Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser
195 200 205

Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe
210 215 220

Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro
225 230 235 240

Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp
245 250 255

Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val
260 265 270

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
275 280 285

Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg
290 295 300

Lys Asn Ser
305

<210> 77
<211> 257
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 77

Ala Gln Lys Val Thr Gln Ala Gln Thr Glu Ile Ser Val Val Glu Lys
1 5 10 15

Glu Asp Val Thr Leu Asp Cys Val Tyr Glu Thr Arg Asp Thr Thr Tyr
20 25 30

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

Ile Arg Arg Asn Ser Phe Asp Glu Gln Asn Glu Ile Ser Gly Arg Tyr
50 55 60

Ser Trp Asn Phe Gln Lys Ser Thr Ser Ser Phe Asn Phe Thr Ile Thr
65 70 75 80

Ala Ser Gln Val Val Asp Ser Ala Val Tyr Phe Cys Ala Leu Ser Glu
85 90 95

Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys Leu Thr Phe Gly Lys
100 105 110

Gly Thr Leu Leu Thr Val Asn Pro Asn Ile Gln Asn Pro Glu Pro Ala
115 120 125

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

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

Gly Thr Phe Ile Thr Asp Lys Cys Val Leu Asp Met Lys Ala Met Asp
165 170 175

Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr
180 185 190

Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp
195 200 205

Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met
210 215 220

Asn Leu Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile Leu Leu
225 230 235 240

Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser
245 250 255

Ser

<210> 78
<211> 289
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 78

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

Gln Ser Val Ala Phe Trp Cys Asn Pro Ile Ser Gly His Ala Thr Leu
20 25 30

Tyr Trp Tyr Gln Gln Ile Leu Gly Gln Gly Pro Lys Leu Leu Ile Gln
35 40 45

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

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

Pro Ala Lys Leu Glu Asp Ser Ala Val Tyr Leu Cys Ala Ser Ser Leu
85 90 95

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

Leu Thr Val Val Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser
115 120 125

Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr
130 135 140

Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser
145 150 155 160

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

Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu
180 185 190

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

Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly
210 215 220

Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg
225 230 235 240

Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser
245 250 255

Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala
260 265 270

Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn
275 280 285

Ser

<210> 79
<211> 264
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (175)..(175)
<223> X is Thr or Cys

<220>
<221> MISC_FEATURE
<222> (239)..(239)
<223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
<221> MISC_FEATURE
<222> (241)..(241)
<223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
<221> MISC_FEATURE
<222> (242)..(242)
<223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 79

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

Gly Gln Asn Ile Asp Gln Pro Thr Glu Met Thr Ala Thr Glu Gly Ala
20 25 30

Ile Val Gln Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly Leu

35

40

45

Phe Trp Tyr Gln Gln His Ala Gly Glu Ala Pro Thr Phe Leu Ser Tyr
 50 55 60

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

Ser Arg Ser Lys Gly Tyr Ser Tyr Leu Leu Leu Lys Glu Leu Gln Met
 85 90 95

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

Arg Gln Leu Thr Phe Gly Ser Gly Thr Gln Leu Thr Val Leu Pro Asn
 115 120 125

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

Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn
 145 150 155 160

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

Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp
 180 185 190

Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn
 195 200 205

Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu
 210 215 220

Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Xaa Val
 225 230 235 240

Xaa Xaa Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu
 245 250 255

Met Thr Leu Arg Leu Trp Ser Ser
260

<210> 80
<211> 306
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (190)..(190)
<223> X is Ser or Cys

<400> 80

Met Ala Cys Arg Leu Leu Cys Cys Ala Val Leu Cys Leu Leu Gly Ala
1 5 10 15

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

Met Thr Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His Asn
35 40 45

Ala Met Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu Met
50 55 60

Phe Val Tyr Asn Phe Lys Glu Gln Thr Glu Asn Asn Ser Val Pro Ser
65 70 75 80

Arg Phe Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His Leu
85 90 95

His Thr Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser
100 105 110

Gln Ala Trp Gly Gly Ala Asp Gly Glu Leu Phe Phe Gly Glu Gly Ser
115 120 125

Arg Leu Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val

130

135

140

Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala
 145 150 155 160

Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu
 165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Xaa Thr Asp
 180 185 190

Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg
 195 200 205

Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg
 210 215 220

Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu
 225 230 235 240

Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly
 245 250 255

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

Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr
 275 280 285

Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys
 290 295 300

Asn Ser
 305

<210> 81

<211> 248

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<220>
 <221> MISC_FEATURE
 <222> (159)..(159)
 <223> X is Thr or Cys

<220>
 <221> MISC_FEATURE
 <222> (223)..(223)
 <223> X is Ser, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<220>
 <221> MISC_FEATURE
 <222> (225)..(225)
 <223> X is Met, Ala, Val, Leu, Ile, Pro, Phe, or Trp

<220>
 <221> MISC_FEATURE
 <222> (226)..(226)
 <223> X is Gly, Ala, Val, Leu, Ile, Pro, Phe, Met, or Trp

<400> 81

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

Ile Val Gln Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly Leu
 20 25 30

Phe Trp Tyr Gln Gln His Ala Gly Glu Ala Pro Thr Phe Leu Ser Tyr
 35 40 45

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

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

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

Arg Gln Leu Thr Phe Gly Ser Gly Thr Gln Leu Thr Val Leu Pro Asn
 100 105 110

Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser
 115 120 125

Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn
130 135 140

Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Xaa Val
145 150 155 160

Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp
165 170 175

Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn
180 185 190

Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu
195 200 205

Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Xaa Val
210 215 220

Xaa Xaa Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu
225 230 235 240

Met Thr Leu Arg Leu Trp Ser Ser
245

<210> 82
<211> 288
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> MISC_FEATURE
<222> (172)..(172)
<223> X is Ser or Cys

<400> 82

Glu Thr Gly Val Thr Gln Thr Pro Arg His Leu Val Met Gly Met Thr
1 5 10 15

Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His Asn Ala Met
20 25 30

Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu Met Phe Val
35 40 45

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

Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His Leu His Thr
65 70 75 80

Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Gln Ala
85 90 95

Trp Gly Gly Ala Asp Gly Glu Leu Phe Phe Gly Glu Gly Ser Arg Leu
100 105 110

Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu
115 120 125

Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu
130 135 140

Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp
145 150 155 160

Trp Val Asn Gly Lys Glu Val His Ser Gly Val Xaa Thr Asp Pro Gln
165 170 175

Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg
180 185 190

Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln
195 200 205

Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser
210 215 220

Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala
225 230 235 240

Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala
245 250 255

Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val
260 265 270

Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser
275 280 285

<210> 83
<211> 264
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 83

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

Gly Gln Asn Ile Asp Gln Pro Thr Glu Met Thr Ala Thr Glu Gly Ala
20 25 30

Ile Val Gln Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly Leu
35 40 45

Phe Trp Tyr Gln Gln His Ala Gly Glu Ala Pro Thr Phe Leu Ser Tyr
50 55 60

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

Ser Arg Ser Lys Gly Tyr Ser Tyr Leu Leu Leu Lys Glu Leu Gln Met
85 90 95

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

Arg Gln Leu Thr Phe Gly Ser Gly Thr Gln Leu Thr Val Leu Pro Asn
115 120 125

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

Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn
145 150 155 160

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

Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp
180 185 190

Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn
195 200 205

Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu
210 215 220

Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Leu Val
225 230 235 240

Ile Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu
245 250 255

Met Thr Leu Arg Leu Trp Ser Ser
260

<210> 84
<211> 306
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 84

Met Ala Cys Arg Leu Leu Cys Cys Ala Val Leu Cys Leu Leu Gly Ala
1 5 10 15

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

Met Thr Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His Asn
35 40 45

Ala Met Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu Met
50 55 60

Phe Val Tyr Asn Phe Lys Glu Gln Thr Glu Asn Asn Ser Val Pro Ser
65 70 75 80

Arg Phe Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His Leu
85 90 95

His Thr Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser
100 105 110

Gln Ala Trp Gly Gly Ala Asp Gly Glu Leu Phe Phe Gly Glu Gly Ser
115 120 125

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

Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala
145 150 155 160

Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu
165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp
180 185 190

Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg
195 200 205

Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg
210 215 220

Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu
225 230 235 240

Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly
245 250 255

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

Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr
275 280 285

Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys
290 295 300

Asn Ser
305

<210> 85
<211> 248
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 85

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

Ile Val Gln Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly Leu
20 25 30

Phe Trp Tyr Gln Gln His Ala Gly Glu Ala Pro Thr Phe Leu Ser Tyr
35 40 45

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

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

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

Arg Gln Leu Thr Phe Gly Ser Gly Thr Gln Leu Thr Val Leu Pro Asn
100 105 110

Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser
115 120 125

Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn
130 135 140

Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Cys Val
145 150 155 160

Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp
165 170 175

Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn
180 185 190

Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu
195 200 205

Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu Leu Val
210 215 220

Ile Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu
225 230 235 240

Met Thr Leu Arg Leu Trp Ser Ser
245

<210> 86
<211> 288
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 86

Glu Thr Gly Val Thr Gln Thr Pro Arg His Leu Val Met Gly Met Thr
1 5 10 15

Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His Asn Ala Met
20 25 30

Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu Met Phe Val
35 40 45

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

Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His Leu His Thr
65 70 75 80

Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Gln Ala
85 90 95

Trp Gly Gly Ala Asp Gly Glu Leu Phe Phe Gly Glu Gly Ser Arg Leu
100 105 110

Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu
115 120 125

Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu
130 135 140

Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp
145 150 155 160

Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp Pro Gln
165 170 175

Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg
180 185 190

Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln
195 200 205

Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser
210 215 220

Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala
225 230 235 240

Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala
245 250 255

Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val
260 265 270

Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser
275 280 285

<210> 87
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 87

Arg Ala Lys Arg Ser Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys
1 5 10 15

Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro
20 25

<210> 88
<211> 24
<212> PRT
<213> Homo sapiens

<400> 88

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

Ser Ala Leu Thr Ile Gln Leu Ile
20

<210> 89
<211> 24
<212> PRT
<213> Homo sapiens

<400> 89

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

Ser Ala Leu Thr Ile Gln Leu Ile
20

<210> 90
<211> 23
<212> PRT
<213> Homo sapiens

<400> 90

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

Ala Leu Thr Ile Gln Leu Ile
20

<210> 91
<211> 615
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 91

Met Ala Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
1 5 10 15

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

Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys Arg
35 40 45

Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe Pro
50 55 60

Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys Ala
65 70 75 80

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

85

90

95

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
 100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Asn Pro Ile Ala Ala Asn Ser Tyr
 115 120 125

Asn Glu Gln Phe Phe Gly Pro Gly Thr Arg Leu Thr Val Leu Glu Asp
 130 135 140

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

Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu Ala Arg
 165 170 175

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

Glu Val His Ser Gly Val Cys Thr Asp Pro Gln Ala Tyr Lys Glu Ser
 195 200 205

Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe
 210 215 220

Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe His Gly
 225 230 235 240

Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro Val Thr
 245 250 255

Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr
 260 265 270

Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu
 275 280 285

Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser Thr Leu
 290 295 300

Val Val Met Ala Met Val Lys Arg Lys Asn Ser Arg Ala Lys Arg Ser
305 310 315 320

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

Glu Glu Asn Pro Gly Pro Met Ser Leu Ser Ser Leu Leu Lys Val Val
340 345 350

Thr Ala Ser Leu Trp Leu Pro Gly Ile Ala Gln Lys Ile Thr Gln Thr
355 360 365

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

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

Pro Ser Ser Gly Glu Met Ile Phe Leu Ile Tyr Gln Gly Ser Tyr Asp
405 410 415

Glu Gln Asn Ala Thr Glu Gly Arg Tyr Ser Leu Asn Phe Gln Lys Ala
420 425 430

Arg Lys Ser Ala Asn Leu Val Ile Ser Ala Ser Gln Leu Gly Asp Ser
435 440 445

Ala Met Tyr Phe Cys Ala Met Arg Glu Gly Pro Arg Gly Gly Gly Asn
450 455 460

Lys Leu Thr Phe Gly Thr Gly Thr Gln Leu Lys Val Glu Leu Asn Ile
465 470 475 480

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

Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val
500 505 510

Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Lys Cys Val Leu

515

520

525

Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser
 530 535 540

Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala
 545 550 555 560

Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu Lys
 565 570 575

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

Val Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met
 595 600 605

Thr Leu Arg Leu Trp Ser Ser
 610 615

<210> 92

<211> 611

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 92

Met Ala Leu Leu Leu Leu Leu Gly Pro Gly Ile Ser Leu Leu Leu
 1 5 10 15

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

Ser Trp Val Ile Cys Lys Ser Gly Thr Ser Val Lys Ile Glu Cys Arg
 35 40 45

Ser Leu Asp Phe Gln Ala Thr Thr Met Phe Trp Tyr Arg Gln Phe Pro
 50 55 60

Lys Gln Ser Leu Met Leu Met Ala Thr Ser Asn Glu Gly Ser Lys Ala

65

70

75

80

Thr Tyr Glu Gln Gly Val Glu Lys Asp Lys Phe Leu Ile Asn His Ala
85 90 95

Ser Leu Thr Leu Ser Thr Leu Thr Val Thr Ser Ala His Pro Glu Asp
100 105 110

Ser Ser Phe Tyr Ile Cys Ser Ala Arg Asp Pro Ala Thr Asn Glu Lys
115 120 125

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

Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro Ser Lys Ala Glu
145 150 155 160

Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu Ala Arg Gly Phe
165 170 175

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

His Ser Gly Val Cys Thr Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr
195 200 205

Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp His
210 215 220

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

Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro Val Thr Gln Asn
245 250 255

Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala
260 265 270

Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu
275 280 285

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

Met Ala Met Val Lys Arg Lys Asn Ser Arg Ala Lys Arg Ser Gly Ser
305 310 315 320

Gly Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val Glu Glu
325 330 335

Asn Pro Gly Pro Met Thr Ser Ile Arg Ala Val Phe Ile Phe Leu Trp
340 345 350

Leu Gln Leu Asp Val Asn Gly Glu Asn Val Glu Gln His Pro Ser Thr
355 360 365

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

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

Gly Pro Gln Leu Ile Ile Asp Ile Arg Ser Asn Val Gly Glu Lys Lys
405 410 415

Asp Gln Arg Ile Ala Val Thr Leu Asn Lys Thr Ala Lys His Phe Ser
420 425 430

Leu His Ile Thr Glu Thr Gln Pro Glu Asp Ser Ala Val Tyr Phe Cys
435 440 445

Ala Ala Thr Ser Thr Asp Arg Gly Ser Thr Leu Gly Arg Leu Tyr Phe
450 455 460

Gly Arg Gly Thr Gln Leu Thr Val Trp Pro Asn Ile Gln Asn Pro Glu
465 470 475 480

Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu
485 490 495

Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met

500

505

510

Glu Ser Gly Thr Phe Ile Thr Asp Lys Cys Val Leu Asp Met Lys Ala
 515 520 525

Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser
 530 535 540

Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser
 545 550 555 560

Ser Asp Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr
 565 570 575

Asp Met Asn Leu Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile
 580 585 590

Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu
 595 600 605

Trp Ser Ser
 610

<210> 93
 <211> 610
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic

<400> 93

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Leu Thr Glu Ala Gly Val Ala Gln Ser Pro Arg Tyr Lys Ile Ile Glu
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Lys Arg Gln Ser Val Ala Phe Trp Cys Asn Pro Ile Ser Gly His Ala
 35 40 45

Thr Leu Tyr Trp Tyr Gln Gln Ile Leu Gly Gln Gly Pro Lys Leu Leu

50

55

60

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

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

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

Ser Leu Ala Leu Gly Gln Gly Asp Thr Glu Ala Phe Phe Gly Gln Gly
115 120 125

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

Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys
145 150 155 160

Ala Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu
165 170 175

Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr
180 185 190

Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser
195 200 205

Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe
210 215 220

Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro
225 230 235 240

Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp
245 250 255

Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val
260 265 270

Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
275 280 285

Tyr Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg
290 295 300

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

Leu Leu Lys Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro Met Leu
325 330 335

Thr Ala Ser Leu Leu Arg Ala Val Ile Ala Ser Ile Cys Val Ser Ser
340 345 350

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

Lys Glu Asp Val Thr Leu Asp Cys Val Tyr Glu Thr Arg Asp Thr Thr
370 375 380

Tyr Tyr Leu Phe Trp Tyr Lys Gln Pro Pro Ser Gly Glu Leu Val Phe
385 390 395 400

Leu Ile Arg Arg Asn Ser Phe Asp Glu Gln Asn Glu Ile Ser Gly Arg
405 410 415

Tyr Ser Trp Asn Phe Gln Lys Ser Thr Ser Ser Phe Asn Phe Thr Ile
420 425 430

Thr Ala Ser Gln Val Val Asp Ser Ala Val Tyr Phe Cys Ala Leu Ser
435 440 445

Glu Ala Gly Ala Phe Ser Gly Gly Ser Asn Tyr Lys Leu Thr Phe Gly
450 455 460

Lys Gly Thr Leu Leu Thr Val Asn Pro Asn Ile Gln Asn Pro Glu Pro
465 470 475 480

Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys

485

490

495

Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu
 500 505 510

Ser Gly Thr Phe Ile Thr Asp Lys Cys Val Leu Asp Met Lys Ala Met
 515 520 525

Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe
 530 535 540

Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser
 545 550 555 560

Asp Val Pro Cys Asp Ala Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp
 565 570 575

Met Asn Leu Asn Phe Gln Asn Leu Leu Val Ile Val Leu Arg Ile Leu
 580 585 590

Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp
 595 600 605

Ser Ser
 610

<210> 94
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<400> 94

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

Met Thr Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His Asn

35

40

45

Ala Met Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu Met
 50 55 60

Phe Val Tyr Asn Phe Lys Glu Gln Thr Glu Asn Asn Ser Val Pro Ser
 65 70 75 80

Arg Phe Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His Leu
 85 90 95

His Thr Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser
 100 105 110

Gln Ala Trp Gly Gly Ala Asp Gly Glu Leu Phe Phe Gly Glu Gly Ser
 115 120 125

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

Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala
 145 150 155 160

Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu
 165 170 175

Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Cys Thr Asp
 180 185 190

Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg
 195 200 205

Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe Arg
 210 215 220

Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu
 225 230 235 240

Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly
 245 250 255

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

Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr
275 280 285

Ala Val Leu Val Ser Thr Leu Val Val Met Ala Met Val Lys Arg Lys
290 295 300

Asn Ser Arg Ala Lys Arg Ser Gly Ser Gly Ala Thr Asn Phe Ser Leu
305 310 315 320

Leu Lys Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro Met Trp Gly
325 330 335

Val Phe Leu Leu Tyr Val Ser Met Lys Met Gly Thr Thr Gly Gln Asn
340 345 350

Ile Asp Gln Pro Thr Glu Met Thr Ala Thr Glu Gly Ala Ile Val Gln
355 360 365

Ile Asn Cys Thr Tyr Gln Thr Ser Gly Phe Asn Gly Leu Phe Trp Tyr
370 375 380

Gln Gln His Ala Gly Glu Ala Pro Thr Phe Leu Ser Tyr Asn Val Leu
385 390 395 400

Asp Gly Leu Glu Glu Lys Gly Arg Phe Ser Ser Phe Leu Ser Arg Ser
405 410 415

Lys Gly Tyr Ser Tyr Leu Leu Leu Lys Glu Leu Gln Met Lys Asp Ser
420 425 430

Ala Ser Tyr Leu Cys Ala Val Phe Ser Ser Gly Ser Ala Arg Gln Leu
435 440 445

Thr Phe Gly Ser Gly Thr Gln Leu Thr Val Leu Pro Asn Ile Gln Asn
450 455 460

Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro Arg Ser Gln Asp Ser

465		470		475		480									
Thr	Leu	Cys	Leu	Phe	Thr	Asp	Phe	Asp	Ser	Gln	Ile	Asn	Val	Pro	Lys
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Thr	Met	Glu	Ser	Gly	Thr	Phe	Ile	Thr	Asp	Lys	Cys	Val	Leu	Asp	Met
			500					505					510		
Lys	Ala	Met	Asp	Ser	Lys	Ser	Asn	Gly	Ala	Ile	Ala	Trp	Ser	Asn	Gln
		515					520					525			
Thr	Ser	Phe	Thr	Cys	Gln	Asp	Ile	Phe	Lys	Glu	Thr	Asn	Ala	Thr	Tyr
	530					535					540				
Pro	Ser	Ser	Asp	Val	Pro	Cys	Asp	Ala	Thr	Leu	Thr	Glu	Lys	Ser	Phe
545					550					555					560
Glu	Thr	Asp	Met	Asn	Leu	Asn	Phe	Gln	Asn	Leu	Leu	Val	Ile	Val	Leu
				565					570					575	
Arg	Ile	Leu	Leu	Leu	Lys	Val	Ala	Gly	Phe	Asn	Leu	Leu	Met	Thr	Leu
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Arg	Leu	Trp	Ser	Ser											
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 <212> DNA
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<220>
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tctaccctga cagtgcctc cgcccacca gaggacagct cctttttacat ctgctccgcc	360
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<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 96
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 <212> DNA
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<220>
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<400> 97	
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gccaccctgg tgtgcctggc ccggggcttc tttccagacc acgtggagct gtcttggtgg	540
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