

SEQUENCE LISTING

<110> ALECTOR LLC

<120> ANTI-SIRP-ALPHA ANTIBODIES AND METHODS OF USE THEREOF

<130> 099061-1069197

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<150> 62/432,503

<151> 2016-12-09

<160> 74

<170> PatentIn version 3.5

<210> 1

<211> 504

<212> PRT

<213> Homo sapiens

<400> 1

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

Leu Leu Leu Ala Ala Ser Cys Ala Trp Ser Gly Val Ala Gly Glu Glu
20 25 30

Glu Leu Gln Val Ile Gln Pro Asp Lys Ser Val Leu Val Ala Ala Gly
35 40 45

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

Pro Ile Gln Trp Phe Arg Gly Ala Gly Pro Gly Arg Glu Leu Ile Tyr
65 70 75 80

Asn Gln Lys Glu Gly His Phe Pro Arg Val Thr Thr Val Ser Asp Leu
85 90 95

Thr Lys Arg Asn Asn Met Asp Phe Ser Ile Arg Ile Gly Asn Ile Thr
100 105 110

Pro Ala Asp Ala Gly Thr Tyr Tyr Cys Val Lys Phe Arg Lys Gly Ser
115 120 125

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

Arg Ala Lys Pro Ser Ala Pro Val Val Ser Gly Pro Ala Ala Arg Ala
145 150 155 160

Thr Pro Gln His Thr Val Ser Phe Thr Cys Glu Ser His Gly Phe Ser
165 170 175

Pro Arg Asp Ile Thr Leu Lys Trp Phe Lys Asn Gly Asn Glu Leu Ser
180 185 190

Asp Phe Gln Thr Asn Val Asp Pro Val Gly Glu Ser Val Ser Tyr Ser
 195 200 205
 Ile His Ser Thr Ala Lys Val Val Leu Thr Arg Glu Asp Val His Ser
 210 215 220
 Gln Val Ile Cys Glu Val Ala His Val Thr Leu Gln Gly Asp Pro Leu
 225 230 235 240
 Arg Gly Thr Ala Asn Leu Ser Glu Thr Ile Arg Val Pro Pro Thr Leu
 245 250 255
 Glu Val Thr Gln Gln Pro Val Arg Ala Glu Asn Gln Val Asn Val Thr
 260 265 270
 Cys Gln Val Arg Lys Phe Tyr Pro Gln Arg Leu Gln Leu Thr Trp Leu
 275 280 285
 Glu Asn Gly Asn Val Ser Arg Thr Glu Thr Ala Ser Thr Val Thr Glu
 290 295 300
 Asn Lys Asp Gly Thr Tyr Asn Trp Met Ser Trp Leu Leu Val Asn Val
 305 310 315 320
 Ser Ala His Arg Asp Asp Val Lys Leu Thr Cys Gln Val Glu His Asp
 325 330 335
 Gly Gln Pro Ala Val Ser Lys Ser His Asp Leu Lys Val Ser Ala His
 340 345 350
 Pro Lys Glu Gln Gly Ser Asn Thr Ala Ala Glu Asn Thr Gly Ser Asn
 355 360 365
 Glu Arg Asn Ile Tyr Ile Val Val Gly Val Val Cys Thr Leu Leu Val
 370 375 380
 Ala Leu Leu Met Ala Ala Leu Tyr Leu Val Arg Ile Arg Gln Lys Lys
 385 390 395 400
 Ala Gln Gly Ser Thr Ser Ser Thr Arg Leu His Glu Pro Glu Lys Asn
 405 410 415
 Ala Arg Glu Ile Thr Gln Asp Thr Asn Asp Ile Thr Tyr Ala Asp Leu
 420 425 430
 Asn Leu Pro Lys Gly Lys Lys Pro Ala Pro Gln Ala Ala Glu Pro Asn
 435 440 445
 Asn His Thr Glu Tyr Ala Ser Ile Gln Thr Ser Pro Gln Pro Ala Ser
 450 455 460

Glu Asp Thr Leu Thr Tyr Ala Asp Leu Asp Met Val His Leu Asn Arg
465 470 475 480

Thr Pro Lys Gln Pro Ala Pro Lys Pro Glu Pro Ser Phe Ser Glu Tyr
485 490 495

Ala Ser Val Gln Val Pro Arg Lys
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<220>
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1 5 10 15

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

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

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

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

Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Leu Tyr Tyr
85 90 95

Cys Ala Arg Pro Pro Tyr Asp Asp Tyr Tyr Gly Gly Phe Ala Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ala
115 120

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

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys Ser Val Ser Ser Ser
20 25 30

Gly Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

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

Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln His Asn Arg
85 90 95

Glu Leu Pro Cys Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 4
<211> 118
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<220>
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1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Leu Thr Gly Tyr
20 25 30

Asn Met Asn Trp Val Lys Gln Ser Arg Gly Lys Ser Leu Glu Trp Ile
35 40 45

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

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

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

Ala Arg Glu Gly Tyr Asp Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Ser
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<211> 106
<212> PRT

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<220>

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Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Arg Thr
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

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<212> PRT

<213> Artificial Sequence

<220>

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<210> 7

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<210> 8

<211> 9

<212> PRT

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

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<210> 9
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<212> PRT
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<210> 10
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<210> 11
<211> 12
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<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 11
Pro Pro Tyr Asp Asp Tyr Tyr Gly Gly Phe Ala Tyr
1 5 10

<210> 12
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 12
Arg Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 13
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 <400> 14
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<210> 15
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 Gly Tyr Ser Leu Thr Gly Tyr Asn Met Asn
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<210> 16
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 Asn Ile Asn Pro His Tyr Gly Ser Ser Thr
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<210> 17
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<400> 17
Glu Gly Tyr Asp Gly Val Phe Asp Tyr
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<210> 18
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Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
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Ser Leu Lys Leu Ser Cys Ala Ala Ser
20 25

<210> 19
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<212> PRT
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Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val Ala
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 20
Tyr Pro Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
1 5 10 15

Lys Tyr Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr
20 25 30

Ala Leu Tyr Tyr Cys Ala Arg
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<213> Artificial Sequence

<220>
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Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
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<210> 22
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<220>
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Gln Arg Ala Thr Ile Ser Cys
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<210> 23
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<220>
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Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr
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<210> 24
<211> 32
<212> PRT
<213> Artificial Sequence

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Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys
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<210> 25
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<400> 25
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1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser
20 25

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<220>
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Trp Val Lys Gln Ser Arg Gly Lys Ser Leu Glu Trp Ile Gly
1 5 10

<210> 28
<211> 39
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<400> 28
Tyr Asn Gln Asn Phe Lys Asp Lys Ala Thr Leu Thr Val Asp Lys Ser
1 5 10 15

Ser Ser Ala Ala Tyr Met Gln Phe Asn Ser Leu Thr Ser Glu Asp Ser
20 25 30

Ala Val Tyr Tyr Cys Ala Arg
35

<210> 29
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<400> 29

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
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<210> 30

<211> 23

<212> PRT

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 30

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Glu Lys Val Thr Met Thr Cys
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<210> 31

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 31

Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr
1 5 10 15

<210> 32

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 32

Gly Val Pro Thr Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser
1 5 10 15

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

<210> 33

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 33
Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 34
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 34
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro
100 105 110

<210> 35
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 35
Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Val Ile Asp Pro Ser Asp Ser Tyr Thr Asn Tyr Asn Gln Lys Phe
50 55 60

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

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

Thr Arg Ser Gly Tyr Gly Lys Tyr Asp Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Thr Leu Thr Val Ser Ser
115

<210> 36

<211> 111

<212> PRT

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<220>

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<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 36

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

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Ser
20 25 30

Ser Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Lys Tyr Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

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

Pro Val Glu Glu Glu Asp Thr Ala Thr Tyr Tyr Cys Gln His Asn Trp
85 90 95

Glu Ile Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 37

<211> 119

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<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 37

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

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

<210> 38
 <211> 107
 <212> PRT
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<400> 38
 Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asn Val Pro Thr Ala
 20 25 30
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile
 35 40 45
 Tyr Leu Ala Ser Asn Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser
 65 70 75 80
 Glu Asp Leu Ala Asp Tyr Phe Cys Leu Gln His Trp Asn Tyr Pro Arg
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 39

<211> 121
<212> PRT
<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 39
Glu Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Ser Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Thr Pro Ala Lys Arg Leu Glu Trp Val
35 40 45
Ala Thr Ile Ser Gly Ser Gly Gly Tyr Thr Tyr Tyr Pro Asp Ser Met
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asp Ile Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95
Ala Arg Asp Pro Arg Tyr Thr Thr Leu Tyr Ala Met Asp Tyr Trp Gly
100 105 110
Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 40
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1 5 10 15
Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Ile Phe Ser Gly
20 25 30
Ser Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45
Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60
Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr

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

His Leu Ser Ser Cys Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

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<210> 41
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<400> 41
Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Phe Ser Ile Ser Arg Gly
20 25 30

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

Met Gly Tyr Ile Thr Tyr Ser Gly Ile Ser Asn Tyr Asn Pro Ser Leu
50 55 60

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

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

Ala Arg Gly Gly Gly Ala Trp Phe Thr Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ala
115

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<223> /note="Description of Artificial Sequence: Synthetic  
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<400> 42
Asp Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Thr Pro Gly
1 5 10 15

Asp Arg Val Ser Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Asp Ser

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

<210> 43
 <211> 118
 <212> PRT
 <213> Artificial Sequence

<220>
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 <223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 43
 Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1 5 10 15

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

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

Ala Glu Ile Arg Gly Lys Thr Thr Asn Tyr Ala Thr Tyr Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Ser Phe Ser Thr Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Arg Arg Asn Trp Gly Phe Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ala
 115

<210> 44
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
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 <223> /note="Description of Artificial Sequence: Synthetic polypeptide"
 <400> 44
 Asp Ile Leu Leu Thr Gln Ser Pro Ala Ile Leu Ser Val Ser Pro Gly
 1 5 10 15
 Glu Arg Val Ser Phe Ser Cys Arg Ala Ser Gln Thr Ile Gly Thr Ser
 20 25 30
 Ile His Trp Tyr Gln Gln Arg Thr Asn Gly Ser Pro Arg Leu Leu Ile
 35 40 45
 Lys Tyr Ala Ser Glu Ser Ile Ser Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser Val Glu Ser
 65 70 75 80
 Glu Asp Ile Ala Asp Tyr Tyr Cys Gln Gln Thr Asn Ser Trp Pro Leu
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 Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
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 20 25 30
 Glu Leu Gln Val Ile Gln Pro Asp Lys Ser Val Ser Val Ala Ala Gly
 35 40 45
 Glu Ser Ala Ile Leu His Cys Thr Val Thr Ser Leu Ile Pro Val Gly
 50 55 60
 Pro Ile Gln Trp Phe Arg Gly Ala Gly Pro Ala Arg Glu Leu Ile Tyr
 65 70 75 80
 Asn Gln Lys Glu Gly His Phe Pro Arg Val Thr Thr Val Ser Glu Ser
 85 90 95
 Thr Lys Arg Glu Asn Met Asp Phe Ser Ile Ser Ile Ser Asn Ile Thr
 100 105 110
 Pro Ala Asp Ala Gly Thr Tyr Tyr Cys Val Lys Phe Arg Lys Gly Ser

115					120					125					
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Ala	Lys	Pro	Ser	Ala	Pro	Val	Val	Ser	Gly	Pro	Ala	Ala	Arg	Ala	Thr
145					150					155					160
Pro	Gln	His	Thr	Val	Ser	Phe	Thr	Cys	Glu	Ser	His	Gly	Phe	Ser	Pro
				165					170					175	
Arg	Asp	Ile	Thr	Leu	Lys	Trp	Phe	Lys	Asn	Gly	Asn	Glu	Leu	Ser	Asp
			180					185					190		
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His	Ser	Thr	Ala	Lys	Val	Val	Leu	Thr	Arg	Glu	Asp	Val	His	Ser	Gln
	210					215					220				
Val	Ile	Cys	Glu	Val	Ala	His	Val	Thr	Leu	Gln	Gly	Asp	Pro	Leu	Arg
225					230					235					240
Gly	Thr	Ala	Asn	Leu	Ser	Glu	Thr	Ile	Arg	Val	Pro	Pro	Thr	Leu	Glu
				245					250					255	
Val	Thr	Gln	Gln	Pro	Val	Arg	Ala	Glu	Asn	Gln	Val	Asn	Val	Thr	Cys
			260					265					270		
Gln	Val	Arg	Lys	Phe	Tyr	Pro	Gln	Arg	Leu	Gln	Leu	Thr	Trp	Leu	Glu
		275					280					285			
Asn	Gly	Asn	Val	Ser	Arg	Thr	Glu	Thr	Ala	Ser	Thr	Val	Thr	Glu	Asn
	290					295					300				
Lys	Asp	Gly	Thr	Tyr	Asn	Trp	Met	Ser	Trp	Leu	Leu	Val	Asn	Val	Ser
305					310					315					320
Ala	His	Arg	Asp	Asp	Val	Lys	Leu	Thr	Cys	Gln	Val	Glu	His	Asp	Gly
				325					330					335	
Gln	Pro	Ala	Val	Ser	Lys	Ser	His	Asp	Leu	Lys	Val	Ser	Ala	His	Pro
			340					345					350		
Lys	Glu	Gln	Gly	Ser	Asn	Thr	Ala	Ala	Glu	Asn	Thr	Gly	Ser	Asn	Glu
		355					360					365			
Arg	Asn	Ile	Tyr	Ile	Val	Val	Gly	Val	Val	Cys	Thr	Leu	Leu	Val	Ala
	370					375					380				
Leu	Leu	Met	Ala	Ala	Leu	Tyr	Leu	Val	Arg	Ile	Arg	Gln	Lys	Lys	Ala
385					390					395					400

Gln Gly Ser Thr Ser₄₀₅ Ser Thr Arg Leu His₄₁₀ Glu Pro Glu Lys Asn₄₁₅ Ala

Arg Glu Ile Thr₄₂₀ Gln Asp Thr Asn₄₂₅ Asp Ile Thr Tyr Ala Asp₄₃₀ Leu Asn

Leu Pro Lys₄₃₅ Gly Lys Lys Pro Ala₄₄₀ Pro Gln Ala Ala Glu₄₄₅ Pro Asn Asn

His Thr₄₅₀ Glu Tyr Ala Ser Ile₄₅₅ Gln Thr Ser Pro Gln₄₆₀ Pro Ala Ser Glu

Asp Thr₄₆₅ Leu Thr Tyr Ala₄₇₀ Asp Leu Asp Met Val₄₇₅ His Leu Asn Arg Thr₄₈₀

Pro Lys Gln Pro Ala₄₈₅ Pro Lys Pro Glu Pro₄₉₀ Ser Phe Ser Glu Tyr₄₉₅ Ala

Ser Val Gln Val₅₀₀ Pro Arg Lys

<210> 46

<211> 398

<212> PRT

<213> Homo sapiens

<400> 46

Met Pro Val Pro Ala Ser Trp Pro His Leu₁₀ Pro Ser Pro Phe Leu₁₅ Leu₁

Met Thr Leu₂₀ Leu Leu Gly Arg Leu Thr₂₅ Gly Val Ala Gly Glu₃₀ Asp Glu

Leu Gln Val₃₅ Ile Gln Pro Glu Lys₄₀ Ser Val Ser Val Ala₄₅ Ala Gly Glu

Ser Ala₅₀ Thr Leu Arg Cys Ala₅₅ Met Thr Ser Leu Ile₆₀ Pro Val Gly Pro

Ile Met Trp Phe Arg Gly₇₀ Ala Gly Ala Gly Arg₇₅ Glu Leu Ile Tyr Asn₈₀

Gln Lys Glu Gly His₈₅ Phe Pro Arg Val Thr₉₀ Thr Val Ser Glu Leu₉₅ Thr

Lys Arg Asn Asn₁₀₀ Leu Asp Phe Ser Ile₁₀₅ Ser Ile Ser Asn Ile₁₁₀ Thr Pro

Ala Asp Ala₁₁₅ Gly Thr Tyr Tyr Cys Val Lys Phe Arg Lys₁₂₅ Gly Ser Pro

Asp Asp₁₃₀ Val Glu Phe Lys Ser₁₃₅ Gly Ala Gly Thr Glu₁₄₀ Leu Ser Val Arg

Ala Lys Pro Ser Ala Pro Val Val Ser Gly Pro Ala Val Arg Ala Thr
 145 150 155 160
 Pro Glu His Thr Val Ser Phe Thr Cys Glu Ser His Gly Phe Ser Pro
 165 170 175
 Arg Asp Ile Thr Leu Lys Trp Phe Lys Asn Gly Asn Glu Leu Ser Asp
 180 185 190
 Phe Gln Thr Asn Val Asp Pro Ala Gly Asp Ser Val Ser Tyr Ser Ile
 195 200 205
 His Ser Thr Ala Arg Val Val Leu Thr Arg Gly Asp Val His Ser Gln
 210 215 220
 Val Ile Cys Glu Ile Ala His Ile Thr Leu Gln Gly Asp Pro Leu Arg
 225 230 235 240
 Gly Thr Ala Asn Leu Ser Glu Ala Ile Arg Val Pro Pro Thr Leu Glu
 245 250 255
 Val Thr Gln Gln Pro Met Arg Ala Glu Asn Gln Ala Asn Val Thr Cys
 260 265 270
 Gln Val Ser Asn Phe Tyr Pro Arg Gly Leu Gln Leu Thr Trp Leu Glu
 275 280 285
 Asn Gly Asn Val Ser Arg Thr Glu Thr Ala Ser Thr Leu Ile Glu Asn
 290 295 300
 Lys Asp Gly Thr Tyr Asn Trp Met Ser Trp Leu Leu Val Asn Thr Cys
 305 310 315 320
 Ala His Arg Asp Asp Val Val Leu Thr Cys Gln Val Glu His Asp Gly
 325 330 335
 Gln Gln Ala Val Ser Lys Ser Tyr Ala Leu Glu Ile Ser Ala His Gln
 340 345 350
 Lys Glu His Gly Ser Asp Ile Thr His Glu Ala Ala Leu Ala Pro Thr
 355 360 365
 Ala Pro Leu Leu Val Ala Leu Leu Leu Gly Pro Lys Leu Leu Leu Val
 370 375 380
 Val Gly Val Ser Ala Ile Tyr Ile Cys Trp Lys Gln Lys Ala
 385 390 395

<210> 47
 <211> 509
 <212> PRT
 <213> Mus musculus

<400> 47

Met Glu Pro Ala Gly Pro Ala Pro Gly Arg Leu Gly Pro Leu Leu Leu
1 5 10 15

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

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

Asp Ser Thr Val Leu Asn Cys Thr Leu Thr Ser Leu Leu Pro Val Gly
50 55 60

Pro Ile Arg Trp Tyr Arg Gly Val Gly Pro Ser Arg Leu Leu Ile Tyr
65 70 75 80

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

Thr Lys Arg Asn Asn Met Asp Phe Ser Ile Arg Ile Ser Asn Val Thr
100 105 110

Pro Ala Asp Ala Gly Ile Tyr Tyr Cys Val Lys Phe Gln Lys Gly Ser
115 120 125

Ser Glu Pro Asp Thr Glu Ile Gln Ser Gly Gly Gly Thr Glu Val Tyr
130 135 140

Val Leu Ala Lys Pro Ser Pro Pro Glu Val Ser Gly Pro Ala Asp Arg
145 150 155 160

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

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

His Pro Leu Glu Thr Thr Val Asn Pro Ser Gly Lys Asn Val Ser Tyr
195 200 205

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

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

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

Val Lys Val Thr Gln Gln Ser Pro Thr Ser Met Asn Gln Val Asn Leu
260 265 270

Thr Cys Arg Ala Glu Arg Phe Tyr Pro Glu Asp Leu Gln Leu Ile Trp

275	280	285
Leu Glu Asn Gly Asn Val Ser Arg Asn Asp Thr Pro Lys Asn Leu Thr		
290	295	300
Lys Asn Thr Asp Gly Thr Tyr Asn Tyr Thr Ser Leu Phe Leu Val Asn		
305	310	315
Ser Ser Ala His Arg Glu Asp Val Val Phe Thr Cys Gln Val Lys His		
325	330	335
Asp Gln Gln Pro Ala Ile Thr Arg Asn His Thr Val Leu Gly Phe Ala		
340	345	350
His Ser Ser Asp Gln Gly Ser Met Gln Thr Phe Pro Asp Asn Asn Ala		
355	360	365
Thr His Asn Trp Asn Val Phe Ile Gly Val Gly Val Ala Cys Ala Leu		
370	375	380
Leu Val Val Leu Leu Met Ala Ala Leu Tyr Leu Leu Arg Ile Lys Gln		
385	390	395
Lys Lys Ala Lys Gly Ser Thr Ser Ser Thr Arg Leu His Glu Pro Glu		
405	410	415
Lys Asn Ala Arg Glu Ile Thr Gln Ile Gln Asp Thr Asn Asp Ile Asn		
420	425	430
Asp Ile Thr Tyr Ala Asp Leu Asn Leu Pro Lys Glu Lys Lys Pro Ala		
435	440	445
Pro Arg Ala Pro Glu Pro Asn Asn His Thr Glu Tyr Ala Ser Ile Glu		
450	455	460
Thr Gly Lys Val Pro Arg Pro Glu Asp Thr Leu Thr Tyr Ala Asp Leu		
465	470	475
Asp Met Val His Leu Ser Arg Ala Gln Pro Ala Pro Lys Pro Glu Pro		
485	490	495
Ser Phe Ser Glu Tyr Ala Ser Val Gln Val Gln Arg Lys		
500	505	

<210> 48

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 48

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

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

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

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

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys

<210> 49
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 49
Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10 15

<210> 50
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 50
Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15

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

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

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

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

Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Leu Tyr Tyr
85 90 95

Cys Ala Arg Pro Pro Tyr Asp Asp Tyr Tyr Gly Gly Phe Ala Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 51
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 51
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

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

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

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

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys

<210> 52
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 52
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

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

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

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

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

Cys Ala Lys Pro Pro Tyr Asp Asp Tyr Tyr Gly Gly Phe Ala Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 53

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 53

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

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

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

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

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

Cys Ala Arg Pro Pro Tyr Asp Asp Tyr Tyr Gly Gly Phe Ala Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 54
<211> 96
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 54
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

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

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

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

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

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Pro
85 90 95

<210> 55
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 55
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 56
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 56
Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys Ser Val Ser Ser Ser
20 25 30

Gly Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

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

Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln His Asn Arg
85 90 95

Glu Leu Pro Cys Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 57

<211> 96

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 57

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

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

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

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

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

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Pro
85 90 95

<210> 58

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 58

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

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Lys Ser Val Ser Ser Ser
20 25 30

Gly Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
35 40 45

Arg Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala
50 55 60

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

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln His Asn Arg
85 90 95

Glu Leu Pro Cys Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 59
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 59
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys Ser Val Ser Ser Ser
20 25 30

Gly Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
35 40 45

Arg Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

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

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

Glu Leu Pro Cys Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 60
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 60

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

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys Ser Val Ser Ser Ser
20 25 30

Gly Tyr Gly Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
35 40 45

Arg Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

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

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

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

<210> 61

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 61

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Ile Ile Asn Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe
50 55 60

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

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg

<210> 62
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 62
Glu Phe Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Leu Thr Gly Tyr
20 25 30

Asn Met Asn Trp Val Lys Gln Ser Arg Gly Lys Ser Leu Glu Trp Ile
35 40 45

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

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

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

Ala Arg Glu Gly Tyr Asp Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Ser
115

<210> 63
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 63
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Ile Ile Asn Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe
50 55 60

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

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg

<210> 64
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 64
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Leu Thr Gly Tyr
20 25 30

Asn Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Asn Ile Asn Pro His Tyr Gly Ser Ser Thr Tyr Ala Gln Lys Phe
50 55 60

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

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Tyr Asp Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 65
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 65
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Leu Thr Gly Tyr
20 25 30

Asn Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Asn Pro His Tyr Gly Ser Ser Thr Tyr Ala Gln Lys Phe
50 55 60

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

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Tyr Asp Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 66

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<221> source

<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 66

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

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Leu Thr Gly Tyr
20 25 30

Asn Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Asn Pro His Tyr Gly Ser Ser Thr Tyr Ala Gln Lys Phe
50 55 60

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

Met Glu Phe Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Gly Tyr Asp Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 67
 <211> 118
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> source
 <223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 67
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Leu Thr Gly Tyr
 20 25 30

Asn Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Asn Ile Asn Pro His Tyr Gly Ser Ser Thr Tyr Ala Gln Lys Phe
 50 55 60

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

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

Ala Arg Glu Gly Tyr Asp Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 68
 <211> 96
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> source
 <223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 68
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

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

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

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

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

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Pro
85 90 95

<210> 69
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 69
Gln Ile Val Leu Ser Gln Ser Pro Ala Ile Leu Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Arg Thr
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 70
<211> 96
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 70
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

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

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

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

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

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Pro
85 90 95

<210> 71
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 71
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

Val Thr Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser
50 55 60

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

Asp Phe Ala Val Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Arg Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 72
<211> 106
<212> PRT
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
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His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Pro Leu Ile Tyr
35 40 45

Val Thr Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu
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Asp Phe Ala Val Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Arg Thr
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Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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polypeptide"

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

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

Val Thr Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu
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Asp Phe Ala Val Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Arg Thr
85 90 95

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

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

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

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

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

Asp Phe Ala Val Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Arg Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105