

SEQUENCE LISTING

<110> ADAPTIMMUNE LIMITED

<120> T CELL RECEPTORS

<130> P5485PC00EP00

<140> PCT/EP2017/058578

<141> 2017-04-10

<150> GB 1606156.6

<151> 2016-04-08

<160> 39

<170> PatentIn version 3.5

<210> 1

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 1

Gly Val Tyr Asp Gly Arg Glu His Thr Val

1 5 10

<210> 2

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 2

Gly Val Tyr Asp Gly Glu Glu His Ser Val

1 5 10

<210> 3

<211> 105

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 3

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

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

Asn Leu Arg Trp Tyr Lys Gln Asp Thr Gly Arg Gly Pro Val Ser Leu
 35 40 45

Thr Ile Met Thr Phe Ser Glu Asn Thr Lys Ser Asn Gly Arg Tyr Thr
 50 55 60

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

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

Thr Asp Ser Trp Gly Lys Leu Gln Phe
 100 105

<210> 4

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 4

Met Ala Ser Leu Leu Phe Phe Cys Gly Ala Phe Tyr Leu Leu Gly Thr
1 5 10 15

Gly Ser Met Asp Ala Asp Val Thr Gln Thr Pro Arg Asn Arg Ile Thr
 20 25 30

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

Asp Arg Met Tyr Trp Tyr Arg Gln Asp Pro Gly Leu Gly Leu Arg Leu
50 55 60

Ile Tyr Tyr Ser Phe Asp Val Lys Asp Ile Asn Lys Gly Glu Ile Ser
65 70 75 80

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

Leu Glu Ser Ala Ile Pro Asn Gln Thr Ala Leu Tyr Phe Cys Ala Thr
100 105 110

Ser Gly Gln Gly Ala Tyr Asn Glu Gln Phe Phe
115 120

<210> 5

<211> 229

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 5

Met Lys Lys His Leu Thr Thr Phe Leu Val Ile Leu Trp Leu Tyr Phe
1 5 10 15

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

Ile Ile Leu Glu Gly Lys Asn Cys Thr Leu Gln Cys Asn Tyr Thr Val
35 40 45

Ser Pro Phe Ser Asn Leu Arg Trp Tyr Lys Gln Asp Thr Gly Arg Gly
50 55 60

Pro Val Ser Leu Thr Ile Met Thr Phe Ser Glu Asn Thr Lys Ser Asn
65 70 75 80

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

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

Val Ser Gly Gly Thr Asp Ser Trp Gly Lys Leu Gln Phe Gly Ala Gly
115 120 125

Thr Gln Val Val Val Thr Pro Asp Ile Gln Asn Pro Asp Pro Ala Val
130 135 140

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

Thr Asp Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp
165 170 175

Val Tyr Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe
180 185 190

Lys Ser Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys
195 200 205

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

Ser Pro Glu Ser Ser
225

<210> 6

<211> 262

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 6

Met Ala Ser Leu Leu Phe Phe Cys Gly Ala Phe Tyr Leu Leu Gly Thr
1 5 10 15

Gly Ser Met Asp Ala Asp Val Thr Gln Thr Pro Arg Asn Arg Ile Thr
20 25 30

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

Asp Arg Met Tyr Trp Tyr Arg Gln Asp Pro Gly Leu Gly Leu Arg Leu
50 55 60

Ile Tyr Tyr Ser Phe Asp Val Lys Asp Ile Asn Lys Gly Glu Ile Ser
65 70 75 80

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

Leu Glu Ser Ala Ile Pro Asn Gln Thr Ala Leu Tyr Phe Cys Ala Thr
100 105 110

Ser Gly Gln Gly Ala Tyr Asn Glu Gln Phe Phe Gly Pro Gly Thr Arg
115 120 125

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

Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr
145 150 155 160

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

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

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

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

His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu
225 230 235 240

Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu
245 250 255

Ala Trp Gly Arg Ala Asp
260

<210> 7
<211> 105
<212> PRT
<213> Artificial Sequence

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

<400> 7
Met Lys Asn Gln Val Glu Gln Ser Pro Gln Ser Leu Ile Ile Leu Glu
1 5 10 15

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

Asn Leu Arg Trp Tyr Lys Gln Asp Thr Gly Arg Gly Pro Val Ser Leu
35 40 45

Thr Ile Val Thr Phe Ser Glu Asn Thr Lys Ser Asn Gly Arg Tyr Thr
50 55 60

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

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

Thr Asp Ser Trp Gly Lys Leu Gln Phe
100 105

<210> 8
<211> 105
<212> PRT
<213> Artificial Sequence

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

<400> 8

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

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

Asn Leu Arg Trp Tyr Lys Gln Asp Thr Gly Arg Gly Pro Val Ser Leu
35 40 45

Thr Ile Thr Thr Phe Ser Glu Asn Thr Lys Ser Asn Gly Arg Tyr Thr
50 55 60

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

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

Thr Asp Ser Trp Gly Lys Leu Gln Phe
100 105

<210> 9

<211> 105

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 9

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

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

Asn Leu Arg Trp Tyr Lys Gln Asp Thr Gly Arg Gly Pro Val Ser Leu
35 40 45

Thr Ile Asn Thr Phe Ser Glu Asn Thr Lys Ser Asn Gly Arg Tyr Thr
50 55 60

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

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

Thr Asp Ser Trp Gly Lys Leu Gln Phe
100 105

<210> 10

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 10

Met Ala Ser Leu Leu Phe Phe Cys Gly Ala Phe Tyr Leu Leu Gly Thr
1 5 10 15

Gly Ser Met Asp Ala Asp Val Thr Gln Thr Pro Arg Asn Arg Ile Thr
20 25 30

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

Asp Arg Met Tyr Trp Tyr Arg Gln Asp Pro Gly Leu Gly Leu Arg Leu
50 55 60

Ile Tyr Tyr Ser Phe Asp Val Lys Asp Ile Asn Lys Gly Glu Ile Ser
65 70 75 80

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

Leu Glu Ser Ala Ile Pro Asn Gln Thr Ala Leu Tyr Phe Cys Ala Thr
100 105 110

Ser Gly Gln Gly Ala Tyr Val Glu Gln Phe Phe
115 120

<210> 11
<211> 123
<212> PRT
<213> Artificial Sequence

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

<400> 11
Met Ala Ser Leu Leu Phe Phe Cys Gly Ala Phe Tyr Leu Leu Gly Thr
1 5 10 15

Gly Ser Met Asp Ala Asp Val Thr Gln Thr Pro Arg Asn Arg Ile Thr
20 25 30

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

Asp Arg Met Tyr Trp Tyr Arg Gln Asp Pro Gly Leu Gly Leu Arg Leu
50 55 60

Ile Tyr Tyr Ala Phe Asp Val Lys Asp Ile Asn Lys Gly Glu Ile Ser
65 70 75 80

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

Leu Glu Ser Ala Ile Pro Asn Gln Thr Ala Leu Tyr Phe Cys Ala Thr
100 105 110

Thr Gly Gln Gly Ala Tyr Asn Glu Gln Phe Phe
115 120

<210> 12
<211> 123
<212> PRT
<213> Artificial Sequence

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

<400> 12
Met Ala Ser Leu Leu Phe Phe Cys Gly Ala Phe Tyr Leu Leu Gly Thr

1 5 10 15

Gly Ser Met Asp Ala Asp Val Thr Gln Thr Pro Arg Asn Arg Ile Thr
20 25 30

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

Asp Arg Met Tyr Trp Tyr Arg Gln Asp Pro Gly Leu Gly Leu Arg Leu
50 55 60

Ile Tyr Tyr Ala Phe Asp Val Lys Asp Ile Asn Lys Gly Glu Ile Ser
65 70 75 80

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

Leu Glu Ser Ala Ile Pro Asn Gln Thr Ala Leu Tyr Phe Cys Ala Thr
100 105 110

Thr Gly Gln Gly Ala Tyr Glu Glu Gln Phe Phe
115 120

<210> 13

<211> 271

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 13

Met Glu Thr Leu Leu Gly Leu Leu Ile Leu Trp Leu Gln Leu Gln Trp
1 5 10 15

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

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

Ile Tyr Asn Leu Gln Trp Phe Arg Gln Asp Pro Gly Lys Gly Leu Thr

50 55 60

Ser Leu Leu Leu Ile Gln Ser Ser Gln Arg Glu Gln Thr Ser Gly Arg
65 70 75 80

Leu Asn Ala Ser Leu Asp Lys Ser Ser Gly Arg Ser Thr Leu Tyr Ile
85 90 95

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

Gly Tyr Ser Thr Leu Thr Phe Gly Lys Gly Thr Val Leu Leu Val Ser
115 120 125

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

Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser
145 150 155 160

Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp
165 170 175

Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala
180 185 190

Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn
195 200 205

Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser
210 215 220

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

Asn Phe Gln Asn Leu Ser Val Ile Gly Phe 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> 14
<211> 308
<212> PRT
<213> Artificial Sequence

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

<400> 14
Met Ser Ile Ser Leu Leu Cys Cys Ala Ala Phe Pro Leu Leu Trp Ala
1 5 10 15

Gly Pro Val Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Arg Ile Leu
20 25 30

Lys Ile Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His
35 40 45

Asn Tyr Met Tyr Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Lys Leu
50 55 60

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

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

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

Ser Tyr Ser Arg Trp Ser Pro Leu His Phe Gly Asn Gly Thr Arg Leu
115 120 125

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

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

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

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

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

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

Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp
225 230 235 240

Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala
245 250 255

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

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

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

Arg Lys Asp Phe
305

<210> 15

<211> 208

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 15

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

Gly Ala Ile Ala Ser Leu Asn Cys Thr Tyr Ser Asp Arg Gly Ser Gln
20 25 30

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

Met Phe Ile Tyr Ser Asn Gly Asp Lys Glu Asp Gly Arg Phe Thr Ala
50 55 60

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

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

Gln Ala Gly Thr Ala Leu Ile Phe Gly Lys Gly Thr Thr Leu Ser Val
100 105 110

Ser Ser Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp
115 120 125

Ser Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser
130 135 140

Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp
145 150 155 160

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

Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn
180 185 190

Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser
195 200 205

<210> 16

<211> 244

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 16

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

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

Tyr Met Tyr Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile
35 40 45

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

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

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

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

Val Leu Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe
115 120 125

Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val
130 135 140

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

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

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

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

Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr
210 215 220

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

Gly Arg Ala Asp

<210> 17

<211> 275

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 17

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

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

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

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

Gln Leu Leu Thr Tyr Ile Phe Ser Asn Met Asp Met Lys Gln Asp Gln
65 70 75 80

Arg Leu Thr Val Leu Leu Asn Lys Lys Asp Lys His Leu Ser Leu Arg
85 90 95

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

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

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

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

Asp Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val
 165 170 175

Tyr Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met Asp Phe Lys
 180 185 190

Ser Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala
 195 200 205

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

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

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

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

Trp Ser Ser
 275

<210> 18

<211> 311

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 18

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

Asp His Ala Asp Thr Gly Val Ser Gln Asn Pro Arg His Lys Ile Thr
 20 25 30

Lys Arg Gly Gln Asn Val Thr Phe Arg Cys Asp Pro Ile Ser Glu His
35 40 45

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

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

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

Glu Ile Gln Arg Thr Glu Gln Gly Asp Ser Ala Met Tyr Leu Cys Ala
100 105 110

Ser Ser Leu Phe Ser Gly Val Asn Thr Glu Ala Phe Phe Gly Gln Gly
115 120 125

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

Val Ala Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys
145 150 155 160

Ala Thr Leu Val Cys Leu Ala Thr 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 Ser Thr
180 185 190

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

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

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

Asp Glu Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser
245 250 255

Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Phe Thr Ser Val Ser Tyr
260 265 270

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

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

Met Val Lys Arg Lys Asp Phe
305 310

<210> 19
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 19
Val Ser Pro Phe Ser Asn
1 5

<210> 20
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 20
Leu Thr Ile Met Thr Phe
1 5

<210> 21
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source

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

<400> 21

Leu Thr Arg Met Thr Phe
1 5

<210> 22

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 22

Cys Val Val Ser Gly Gly Thr Asp Ser Trp Gly Lys Leu Gln Phe
1 5 10 15

<210> 23

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 23

Lys Gly His Asp Arg
1 5

<210> 24

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 24

Lys Gly Arg Asp Arg
1 5

<210> 25

<211> 5

<212> PRT
<213> Artificial Sequence

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

<400> 25
Ser Val Phe Asp Lys
1 5

<210> 26
<211> 14
<212> PRT
<213> Artificial Sequence

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

<400> 26
Cys Ala Thr Ser Gly Gln Gly Ala Tyr Asn Glu Gln Phe Phe
1 5 10

<210> 27
<211> 14
<212> PRT
<213> Artificial Sequence

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

<400> 27
Cys Ala Thr Ser Gly Gln Gly Ala Tyr Arg Glu Gln Phe Phe
1 5 10

<210> 28
<211> 14
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<213> Artificial Sequence

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

<400> 28
Cys Ala Thr Ser Gly Gln Gly Ala Tyr Lys Glu Gln Phe Phe

1 5 10

<210> 29

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 29

Cys Asp Met Ala Gly Ser Glu Thr Gln Phe Lys Val Leu Ile His Asn
1 5 10 15

Arg

<210> 30

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 30

Tyr Ser Trp Thr Phe Gln Met His Pro Leu Ala Asn Gly Asp Ile Cys
1 5 10 15

Glu

<210> 31

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 31

Phe Trp Val Leu Met Ala Tyr Arg Lys Cys Thr Ile Gln Ser His Gly
1 5 10 15

Pro Asn

<210> 32

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 32

Val Asn Leu Pro Met Thr Lys Gln Arg Ile Tyr Trp Ser Ala Phe Glu
1 5 10 15

Gly His

<210> 33

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 33

Phe Met Val Ala Ile Leu Thr
1 5

<210> 34

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 34

Leu Met Ile Val Thr Phe
1 5

<210> 35

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

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

<400> 35
Cys Val Val Thr Gly Gly Thr Asp Ser Trp Gly Lys Leu Gln Phe
1 5 10 15

<210> 36
<211> 5
<212> PRT
<213> Artificial Sequence

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Cys Ala Thr Ser Gly Gln Gly Ala Tyr Val Glu Gln Phe Phe
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