

SEQUENCE LISTING

<110> TESARO, INC.

<120> ANTIBODY AGENTS DIRECTED AGAINST LYMPHOCYTE ACTIVATION GENE-3
(LAG-3) AND USES THEREOF

<130> TSR-007W0

<150> 62/491,221

<151> 2017-04-27

<150> 62/578,215

<151> 2017-10-27

<150> 62/614,998

<151> 2017-01-08

<150> 62/625,276

<151> 2018-02-01

<150> 62/657,384

<151> 2018-04-13

<160> 40

<170> PatentIn version 3.5

<210> 1

<211> 460

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 1

Met	Asp	Trp	Thr	Trp	Arg	Ile	Leu	Phe	Leu	Val	Ala	Ala	Ala	Thr	Gly
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Ala	His	Ser	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys
			20					25					30		

Pro	Gly	Ala	Thr	Val	Lys	Ile	Ser	Cys	Lys	Ala	Ser	Gly	Phe	Ser	Ile
		35					40					45			

Lys Asp Asp Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Met Gly Trp Ile Asp Ala Met Asn Asp Asp Ser Gln Tyr Ser
65 70 75 80

Ser Lys Phe Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn
85 90 95

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

Tyr Tyr Cys Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr
115 120 125

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

Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys
145 150 155 160

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
165 170 175

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
180 185 190

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
195 200 205

Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn
210 215 220

Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro
225 230 235 240

Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe
245 250 255

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
260 265 270

Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe
275 280 285

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
290 295 300

Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
305 310 315 320

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
325 330 335

Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala
340 345 350

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln
355 360 365

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
370 375 380

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
385 390 395 400

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
405 410 415

Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu
420 425 430

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
435 440 445

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
450 455 460

<210> 2
<211> 241
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 2

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

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

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

Gln Ser Leu Val His Ser Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu
50 55 60

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

Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
85 90 95

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

Tyr Phe Cys Gly Gln Ser Thr His Val Pro Tyr Ala Phe Gly Gly Gly
115 120 125

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
130 135 140

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

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
165 170 175

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

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
195 200 205

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
210 215 220

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
225 230 235 240

Cys

<210> 3
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 3

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

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
20 25 30

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

Gly Trp Ile Asp Ala Met Asn Asp Asp Ser Gln Tyr Ser Ser Lys Phe
50 55 60

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

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

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

<210> 4
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 4

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

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

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

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

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

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

<220>
<223> Synthetic Oligopeptide

<400> 5

Asp Asp Tyr Ile His
1 5

<210> 6
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 6

Trp Ile Asp Ala Met Asn Asp Asp Ser Gln Tyr Ser Ser Lys Phe Gln
1 5 10 15

Gly

<210> 7
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 7

Ala Phe Gly Gly Tyr
1 5

<210> 8
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 8

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

<210> 9
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 9

Leu Val Ser Asn Arg Phe Ser
1 5

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

<220>
<223> Synthetic Oligopeptide

<400> 10

Gly Gln Ser Thr His Val Pro Tyr Ala
1 5

<210> 11
<211> 1383
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic Polynucleotide

<400> 11

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gtgcagctgg tgcagtccgg cgctgagggtg aagaagcctg gcgccaccgt gaagatctcc	120
tgcaaggcct ccggcttcag catcaaggac gactacatcc actgggtgca gcaggccccc	180
ggaaaaggcc tggagtggat gggctggatc gacgccatga acgacgactc ccagtactcc	240
agcaagttcc agggcagggt gacaatcacc gtggacacct ccaccaacac cgcctacatg	300
aagctgtcct ccctgcggtc cgaggatacc gccgtgtact actgcaccta cgccttcggc	360
ggatactggg gccagggcac cacagtgacc gtgtcctccg ctagcaccaa gggccccatcc	420
gtcttcccc tggcgccctg ctccaggagc acctccgaga gcacagccgc cctgggctgc	480
ctggtcaagg actacttccc cgaaccggtg acggtgtcgt ggaactcagg cgccctgacc	540
agcggcgtgc acaccttccc ggctgtccta cagtcctcag gactctactc cctcagcagc	600
gtggtgaccg tgccctccag cagcttgggc acgaagacct acacctgcaa cgtagatcac	660
aagcccagca acaccaaggt ggacaagaga gttgagtcca aatatggtcc cccatgccc	720
ccatgcccag cacctgagtt cctgggggga ccatcagtct tcctgttccc cccaaaaccc	780
aaggacactc tcatgatctc ccggaccctt gaggtcacgt gcgtgggtgg ggacgtgagc	840
caggaagacc ccgagggtcca gttcaactgg tacgtggatg gcgtggagggt gcataatgcc	900
aagacaaagc cgcgggagga gcagttcaac agcacgtacc gtgtgggtcag cgtcctcacc	960
gtcctgcacc aggactggct gaacggcaag gagtacaagt gcaagggtctc caacaaaggc	1020
ctcccgtcct ccatcgagaa aaccatctcc aaagccaaag ggcagccccg agagccacag	1080
gtgtacaccc tgccccatc ccaggaggag atgaccaaga accagggtcag cctgacctgc	1140
ctggtcaaag gcttctaccc cagcgacatc gccgtggagt gggagagcaa tgggcagccg	1200
gagaacaact acaagaccac gcctcccgtg ctggactccg acggctcctt cttcctctac	1260
agcaggctaa ccgtggacaa gagcagggtg caggagggga atgtcttctc atgctccgtg	1320
atgcatgagg ctctgcacaa ccactacaca cagaagagcc tctccctgtc tctgggtaaa	1380

tga

1383

<210> 12
<211> 726
<212> DNA
<213> Artificial Sequence

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<223> Synthetic Polynucleotide

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agatgtgaca tcgtgatgac ccagacaccc ctgtccctgt ccgtgacacc tggacagccc 120
gcctccatct cctgcaggtc ctcccagtc ctggtgcact ccgactccaa cacctacctc 180
cactgggtacc tgcagaagcc tggccagtc cccagctgc tgatctacct ggtgtccaac 240
cggttcagcg gcgtgcctga caggttcagc ggaagcggct ccggcaccga cttcacccctg 300
aagatctcca ggggtggaggc cgaggatgtg ggcgtgtact tctgcggcca gtccacccac 360
gtgccctatg ctttcggcgg cggcaccaag gtggagatca agcgtacggg ggctgcacca 420
tctgtcttca tcttcccgcc atctgatgag cagttgaaat ctggaactgc ctctgttgtg 480
tgctgtctga ataacttcta tcccagagag gccaaagtac agtgggaagg ggataacgcc 540
ctccaatcgg gtaactccca ggagagtgtc acagagcagg acagcaagga cagcacctac 600
agcctcagca gcaccctgac gctgagcaaa gcagactacg agaaacacaa agtctacgcc 660
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tgttga 726

<210> 13
<211> 342
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<400> 13

Gly Ala Gly Gly Thr Gly Cys Ala Gly Cys Thr Gly Gly Thr Gly Cys
1 5 10 15

Ala Gly Thr Cys Cys Gly Gly Cys Gly Cys Thr Gly Ala Gly Gly Thr
20 25 30

Gly Ala Ala Gly Ala Ala Gly Cys Cys Thr Gly Gly Cys Gly Cys Cys
35 40 45

Ala Cys Cys Gly Thr Gly Ala Ala Gly Ala Thr Cys Thr Cys Cys Thr
50 55 60

Gly Cys Ala Ala Gly Gly Cys Cys Thr Cys Cys Gly Gly Cys Thr Thr
65 70 75 80

Cys Ala Gly Cys Ala Thr Cys Ala Ala Gly Gly Ala Cys Gly Ala Cys
85 90 95

Thr Ala Cys Ala Thr Cys Cys Ala Cys Thr Gly Gly Gly Thr Gly Cys
100 105 110

Ala Gly Cys Ala Gly Gly Cys Cys Cys Cys Cys Gly Gly Ala Ala Ala
115 120 125

Ala Gly Gly Cys Cys Thr Gly Gly Ala Gly Thr Gly Gly Ala Thr Gly
130 135 140

Gly Gly Cys Thr Gly Gly Ala Thr Cys Gly Ala Cys Gly Cys Cys Ala
145 150 155 160

Thr Gly Ala Ala Cys Gly Ala Cys Gly Ala Cys Thr Cys Cys Cys Ala
165 170 175

Gly Thr Ala Cys Thr Cys Cys Ala Gly Cys Ala Ala Gly Thr Thr Cys
180 185 190

Cys Ala Gly Gly Gly Cys Ala Gly Gly Gly Thr Gly Ala Cys Ala Ala
195 200 205

Thr Cys Ala Cys Cys Gly Thr Gly Gly Ala Cys Ala Cys Cys Thr Cys
210 215 220

Cys Ala Cys Cys Ala Ala Cys Ala Cys Cys Gly Cys Cys Thr Ala Cys
225 230 235 240

Ala Thr Gly Ala Ala Gly Cys Thr Gly Thr Cys Cys Thr Cys Cys Cys
245 250 255

Thr Gly Cys Gly Gly Thr Cys Cys Gly Ala Gly Gly Ala Thr Ala Cys
260 265 270

Cys Gly Cys Cys Gly Thr Gly Thr Ala Cys Thr Ala Cys Thr Gly Cys
275 280 285

Ala Cys Cys Thr Ala Cys Gly Cys Cys Thr Thr Cys Gly Gly Cys Gly
290 295 300

Gly Ala Thr Ala Cys Thr Gly Gly Gly Gly Cys Cys Ala Gly Gly Gly
305 310 315 320

Cys Ala Cys Cys Ala Cys Ala Gly Thr Gly Ala Cys Cys Gly Thr Gly
325 330 335

Thr Cys Cys Thr Cys Cys
340

<210> 14
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Polynucleotide

<400> 14
gacatcgtga tgacccagac acccctgtcc ctgtccgtga cacctggaca gcccgcctcc 60

atctcctgca ggtcctccca gtccctggtg cactccgact ccaacaccta cctccactgg 120

tacctgcaga agcctggcca gtccccccag ctgctgatct acctggtgtc caaccggttc	180
agcggcgtgc ctgacagggt cagcgggaagc ggctccggca ccgacttcac cctgaagatc	240
tccaggggtgg aggccgagga tgtgggcgtg tactttctgcg gccagtccac ccacgtgccc	300
tatgctttcg gcggcggcac caaggtggag atcaag	336

<210> 15
 <211> 15
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Oligonucleotide

<400> 15	
gacgactaca tccac	15

<210> 16
 <211> 51
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Oligonucleotide

<400> 16	
tggatcgacg ccatgaacga cgactcccag tactccagca agttccaggg c	51

<210> 17
 <211> 15
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Oligonucleotide

<400> 17	
gccttcggcg gatac	15

<210> 18
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Oligonucleotide
 <400> 18
 aggtcctccc agtccctggg gcactccgac tccaacacct acctccac 48

<210> 19
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Oligonucleotide
 <400> 19
 ctgggtgtcca accggttcag c 21

<210> 20
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Oligonucleotide
 <400> 20
 ggccagtcca cccacgtgcc ctatgct 27

<210> 21
 <211> 441
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Polypeptide

<400> 21

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

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
 20 25 30

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

Gly Trp Ile Asp Ala Met Asn Asp Asp Ser Gln Tyr Ser Ser Lys Phe
50 55 60

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

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

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys
115 120 125

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

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

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu
165 170 175

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr
180 185 190

Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val
195 200 205

Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
210 215 220

Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
225 230 235 240

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
245 250 255

Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
260 265 270

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
275 280 285

Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
290 295 300

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
305 310 315 320

Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
325 330 335

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met
340 345 350

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
355 360 365

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
370 375 380

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
385 390 395 400

Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val
405 410 415

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
420 425 430

Lys Ser Leu Ser Leu Ser Leu Gly Lys
435 440

<210> 22
<211> 219
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 22

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

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

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

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

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

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

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

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
145 150 155 160

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

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
180 185 190

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

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 23
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 23

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

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

Ser Thr Ile Ser Gly Gly Gly Ser Tyr Thr Tyr Tyr Gln 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 Ser Pro Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser Ala
115

<210> 24
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<400> 24

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

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

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

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

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

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

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

<210> 25
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 25

Gly Phe Thr Phe Ser Ser Tyr Asp Met Ser
1 5 10

<210> 26
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 26

Thr Ile Ser Gly Gly Gly Ser Tyr Thr Tyr
1 5 10

<210> 27
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 27

Pro Tyr Tyr Ala Met Asp Tyr
1 5

<210> 28
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Oligopeptide

<400> 28

Lys Ala Ser Gln Asp Val Gly Thr Ala Val Ala
1 5 10

<210> 29

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Oligopeptide

<400> 29

Trp Ala Ser Thr Leu His Thr
1 5

<210> 30

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Oligopeptide

<400> 30

Gln His Tyr Ser Ser Tyr Pro Trp Thr
1 5

<210> 31

<211> 440

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<400> 31

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 Ala Ser Gly Phe Thr Phe Ser Ser
20 25 30

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

Val Ser Thr Ile Ser Gly Gly Gly Thr Tyr Thr Tyr Tyr Gln 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 Ser Met Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
100 105 110

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser
115 120 125

Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
130 135 140

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
145 150 155 160

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
165 170 175

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys
180 185 190

Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp
195 200 205

Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala
210 215 220

Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
225 230 235 240

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
245 250 255

Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val
260 265 270

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
275 280 285

Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
290 295 300

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly
305 310 315 320

Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
325 330 335

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr
340 345 350

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
355 360 365

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
370 375 380

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
385 390 395 400

Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe
405 410 415

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
420 425 430

Ser Leu Ser Leu Ser Leu Gly Lys
435 440

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

<220>
<223> Synthetic Polypeptide

<400> 32

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

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

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

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

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

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

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro
100 105 110

Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 140

Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
145 150 155 160

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
165 170 175

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
180 185 190

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
195 200 205

Asn Arg Gly Glu Cys
210

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Gly Phe Thr Phe Ser Ser Tyr Asp Met Ser
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Thr Ile Ser Gly Gly Gly Thr Tyr Thr Tyr Tyr Gln Asp Ser Val Lys
1 5 10 15

Gly

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Met Asp Tyr
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Gly Ala Ser Thr Leu Gln Ser
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<400> 38

Gln Gln Ser His Ser Ala Pro Leu Thr
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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

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

Ser Thr Ile Ser Gly Gly Gly Ser Tyr Thr Tyr Tyr Gln 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 Ser Pro Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
115 120 125

Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu
130 135 140

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

Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
165 170 175

Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
180 185 190

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

Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro
210 215 220

Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
225 230 235 240

Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr
245 250 255

Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn
260 265 270

Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
275 280 285

Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
290 295 300

Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
305 310 315 320

Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys
325 330 335

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu
340 345 350

Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
355 360 365

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
370 375 380

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
385 390 395 400

Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly
405 410 415

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
420 425 430

Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
435 440

<210> 40
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<400> 40

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

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

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

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

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

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

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

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

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

Phe Asn Arg Gly Glu Cys
210