

SEQUENCE LISTING

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

<120> TAT PEPTIDE BINDING PROTEINS AND USES THEREOF

<130> 130197-00220

<140>

<141>

<150> 62/970,662

<151> 2020-02-05

<160> 47

<170> PatentIn version 3.5

<210> 1

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 1

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

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

Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

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

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

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

Arg Asp Thr Ser Gly Thr Phe Tyr Tyr Asn Leu Trp Gly Pro Gly Thr
100 105 110

Leu Val Ala Val Ser Ser
115

<210> 2
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 2
Phe Ser Ser Gly Tyr Trp Ile Cys
1 5

<210> 3
<211> 17
<212> PRT
<213> Artificial Sequence

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

<400> 3
Cys Ile Tyr Thr Gly Asp Gly Asp Thr Ser Tyr Ala Ser Trp Ala Lys
1 5 10 15

Gly

<210> 4
<211> 10
<212> PRT
<213> Artificial Sequence

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

<400> 4

Asp Thr Ser Gly Thr Phe Tyr Tyr Asn Leu
1 5 10

<210> 5

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 5

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

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Tyr Lys Thr
20 25 30

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

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

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

Glu Cys Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Ser Asp
85 90 95

Asp Ile Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 6

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 6

Gln Ser Ser Glu Ser Val Tyr Lys Thr Asn Tyr Leu Ser
1 5 10

<210> 7

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 7

Asp Ala Ser Thr Leu Ala Ser
1 5

<210> 8

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 8

Ala Gly Gly Tyr Ser Asp Asp Ile Asn Ala
1 5 10

<210> 9

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 9

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile

35

40

45

Tyr Gly Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
 50 55 60

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Ser Tyr Val Tyr Ser Ser Ser
 85 90 95

Thr Ala Asp Thr Phe Gly Gly Gly Thr Lys Val Val Val Glu
 100 105 110

<210> 10

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 10

Gln Ala Ser Gln Asn Ile Tyr Ser Asn Leu Ala
 1 5 10

<210> 11

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 11

Gly Ala Ser Thr Leu Ala Ser
 1 5

<210> 12

<211> 12

<212> PRT

<213> Artificial Sequence

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

<400> 12
 Gln Ser Tyr Val Tyr Ser Ser Ser Thr Ala Asp Thr
 1 5 10

<210> 13
 <211> 110
 <212> PRT
 <213> Artificial Sequence

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

<400> 13
 Ala Ala Val Leu Thr Gln Thr Pro Ser Ser Val Ser Ala Ala Val Gly
 1 5 10 15

Gly Thr Val Thr Ile Ser Cys Gln Ser Ser Glu Ser Val Tyr Lys Thr
 20 25 30

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

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

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

Glu Cys Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Ser Asp
 85 90 95

Asp Ile Asn Ala Phe Gly Gly Gly Thr Glu Val Glu Ile Lys
 100 105 110

<210> 14
 <211> 118
 <212> PRT
 <213> Artificial Sequence

<220>

<221> source

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

<400> 14

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

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

Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

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

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

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

Arg Asp Thr Ser Gly Thr Phe Tyr Tyr Asn Leu Trp Gly Pro Gly Thr
100 105 110

Leu Val Ala Val Ser Ser
115

<210> 15

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 15

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

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Phe Gly Ser Gly Ser

20

25

30

Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

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

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

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

Ala Arg Asp Ser Asp Tyr Val Asp Phe Asp Leu Trp Gly Pro Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 16

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 16

Phe Gly Ser Gly Ser Trp Ile Cys
 1 5

<210> 17

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 17

Cys Ile Tyr Gly Ser Gly Ser Gly Asp Thr Ala Tyr Ala Thr Trp Ala

1 5 10 15

Lys Gly

<210> 18
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 18
Asp Ser Asp Tyr Val Asp Phe Asp Leu
1 5

<210> 19
<211> 110
<212> PRT
<213> Artificial Sequence

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

<400> 19
Ala Gln Val Leu Thr Gln Thr Pro Ser Ser Thr Ser Ala Ala Val Gly
1 5 10 15

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

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

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

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

Glu Cys Asp Asp Ala Ala Thr Tyr Tyr Cys Ala Gly Gly Tyr Ser Asp

Asp Ile Cys Thr Phe Gly Gly Gly Thr Glu Val Val Val Lys
 100 105 110

<210> 20
 <211> 13
 <212> PRT
 <213> Artificial Sequence

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

<400> 20
 Gln Ser Ser Gln Ser Val Tyr Lys Asn Asn Tyr Leu Ser
 1 5 10

<210> 21
 <211> 7
 <212> PRT
 <213> Artificial Sequence

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

<400> 21
 Leu Ala Ser Thr Leu Ala Ser
 1 5

<210> 22
 <211> 10
 <212> PRT
 <213> Artificial Sequence

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

<400> 22
 Ala Gly Gly Tyr Ser Asp Asp Ile Cys Thr
 1 5 10

<210> 23
 <211> 11

<212> PRT

<213> Human immunodeficiency virus 1

<400> 23

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5 10

<210> 24

<211> 86

<212> PRT

<213> Human immunodeficiency virus 1

<400> 24

Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser
1 5 10 15

Gln Pro Lys Thr Ala Cys Thr Asn Cys Tyr Cys Lys Lys Cys Cys Phe
20 25 30

His Cys Gln Val Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly
35 40 45

Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala His Gln Asn Ser Gln Thr
50 55 60

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

Pro Thr Gly Pro Lys Glu
85

<210> 25

<211> 354

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

<400> 25

cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60

tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120

ccagggaagg ggctggagtg gatcgctgac atttatactg gtgatggtga cacttcctac 180

gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
 caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgcgag agatactagt 300
 ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 26
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

<400> 26
 gagcttgtgc tgaccagac tgcacgtcc gtgtctgcag ctgtgggagg cacagtcacc 60
 atcagttgcc agtccagtga gagtgtttat aagaccaact acttatcctg gtttcagaag 120
 aaaccagggc agcctcccaa gtcctgatc tatgatgcat ccactctggc atctggggtc 180
 ccatcgcgct tcagcggcag tggatctggg acacagttca ctctcaccat cagcgacctg 240
 gagtgtgacg atgctgccac ttactactgt gcaggcgggt atagtgatga tattaatgct 300
 ttcggcggag ggaccgaggt ggtggtcaaa 330

<210> 27
 <211> 354
 <212> DNA
 <213> Artificial Sequence

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

<400> 27
 cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60
 tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120
 ccagggaagg ggctggagtg gatcgcgtgc atttatactg gtgatgggtga cacttcctac 180
 gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
 caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgcgag agatactagt 300
 ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 28
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

<400> 28
 gatgtcgtga tgaccagac tccatcccc gtgtctgcac ctgtgggagg cacagtcacc 60
 atcaattgcc aggccagtca gaacatttac agcaatttag cctggtatca gcagaaacca 120
 gggcagcctc ccaagctcct gatctatggg gcatccactc tggcatctgg ggtctcatcg 180
 cggttcaaag gcagtagatc tgggacagag ttactctca ccatcagcga cctggagtgt 240
 gccgatgctg ccacttatta ttgtcaaagc tatgtttata gtagtagtac tgctgatact 300
 ttcggcggag ggaccaaggt ggtcgtcgaa 330

<210> 29
 <211> 354
 <212> DNA
 <213> Artificial Sequence

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

<400> 29
 cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60
 tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120
 ccagggaagg ggctggagtg gatcgctgac atttatactg gtgatggtga cacttcctac 180
 gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
 caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgcgag agatactagt 300
 ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 30
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

 <400> 30
 gatgtcgtga tgaccagac tccatcccc gtgtctgcac ctgtgggagg cacagtcacc 60
 atcaattgcc aggccagtca gaacatttac agcaatttag cctggtatca gcagaaacca 120
 gggcagcctc ccaagctcct gatctatggt gcatccactc tggcatctgg ggtctcatcg 180
 cggttcaaag gcagtagatc tgggacagag ttcactctca ccatcagcga cctggagtgt 240
 gccgatgctg ccacttatta ttgtcaaagc tatgtttata gtagtagtac tgctgatact 300
 ttcggcggag ggaccaaggt ggtcgtcgaa 330

<210> 31
 <211> 354
 <212> DNA
 <213> Artificial Sequence

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

 <400> 31
 cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60
 tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120
 ccagggaagg ggctggagtg gatcgctgc atttatactg gtgatggtga cacttcctac 180
 gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
 caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgagag agatactagt 300
 ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 32
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

<400> 32
gcagccgtgc tgaccagac tccatcgtcc gtgtctgcag ctgtgggagg cacagtcacc 60
atcagttgcc agtccagtga gagggtttat aagaccaact acttatacctg gtttcagaag 120
aaaccagggc agcctcccaa gctcctgata tatgatgcat ccactctggc atctggggtc 180
ccatcgcgct tcagcggcag tggatctggg acacagttca ctctcaccat cagcgacctg 240
gagtgtgacg atgctgccac ttactactgt gcaggcggtt atagtatga tattaatgct 300
ttcggcggag ggaccgaggt ggaaatcaaa 330

<210> 33
<211> 354
<212> DNA
<213> Artificial Sequence

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

<400> 33
cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60
tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120
ccagggaagg ggctggagtg gatcgcgtgc atttatactg gtgatggtga cacttcctac 180
gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgcgag agatactagt 300
ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 34
<211> 330
<212> DNA
<213> Artificial Sequence

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

<400> 34
gagcttgtgc tgaccagac tgcacgtcc gtgtctgcag ctgtgggagg cacagtcacc 60
atcagttgcc agtccagtga gagggtttat aagaccaact acttatacctg gtttcagaag 120
aaaccagggc agcctcccaa gctcctgata tatgatgcat ccactctggc atctggggtc 180

ccatcgcgct tcagcggcag tggatctggg acacagttca ctctcaccat cagcgacctg	240
gagtgtgacg atgctgccac ttactactgt gcaggcgggt atagtgatga tattaatgct	300
ttcggcggag ggaccgaggt ggtgggtcaaa	330

<210> 35
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

<400> 35	
gatgtcgtga tgaccagac tccatcccc gtgtctgcac ctgtgggagg cacagtcacc	60
atcaattgcc aggccagtca gaacatttac agcaatttag cctggtatca gcagaaacca	120
gggcagcctc ccaagctcct gatctatggt gcatccactc tggcatctgg ggtctcatcg	180
cggttcaaag gcagtagatc tgggacagag ttactctca ccatcagcga cctggagtgt	240
gccgatgctg ccacttatta ttgtcaaagc tatgtttata gtagtagtac tgctgatact	300
ttcggcggag ggaccaaggt ggtcgtcgaa	330

<210> 36
 <211> 354
 <212> DNA
 <213> Artificial Sequence

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

<400> 36	
cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc	60
tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct	120
ccagggaagg ggctggagtg gatcgcgtgc atttatactg gtgatgggtga cacttcctac	180
gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg	240
caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgagag agatactagt	300
ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca	354

<210> 37
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

<400> 37
 gatgtcgtga tgaccagac tccatcccc gtgtctgcac ctgtgggagg cacagtcacc 60
 atcaattgcc aggccagtca gaacatttac agcaatttag cctggtatca gcagaaacca 120
 gggcagcctc ccaagctcct gatctatggg gcatccactc tggcatctgg ggtctcatcg 180
 cggttcaaag gcagtagatc tgggacagag ttactctca ccatcagcga cctggagtgt 240
 gccgatgctg ccacttatta ttgtcaaagc tatgtttata gtagtagtac tgctgatact 300
 ttcggcggag ggaccaaggt ggtcgtcgaa 330

<210> 38
 <211> 354
 <212> DNA
 <213> Artificial Sequence

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

<400> 38
 cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60
 tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120
 ccagggaagg ggctggagtg gatcgctgac atttatactg gtgatggtga cacttcctac 180
 gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
 caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgcgag agatactagt 300
 ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 39
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

 <400> 39
 gatgtcgtga tgaccagac tccatcccc gtgtctgcac ctgtgggagg cacagtcacc 60
 atcaattgcc aggccagtca gaacatttac agcaatttag cctggtatca gcagaaacca 120
 gggcagcctc ccaagctcct gatctatggt gcatccactc tggcatctgg ggtctcatcg 180
 cggttcaaag gcagtagatc tgggacagag ttcactctca ccatcagcga cctggagtgt 240
 gccgatgctg ccacttatta ttgtcaaagc tatgtttata gtagtagtac tgctgatact 300
 ttcggcggag ggaccaaggt ggtcgtcgaa 330

<210> 40
 <211> 354
 <212> DNA
 <213> Artificial Sequence

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

 <400> 40
 cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60
 tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120
 ccagggaagg ggctggagtg gatcgctgac atttatactg gtgatggtga cacttcctac 180
 gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
 caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgagag agatactagt 300
 ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 41
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

<400> 41
gcagccgtgc tgaccagac tccatcgtcc gtgtctgcag ctgtgggagg cacagtcacc 60
atcagttgcc agtccagtga gagggtttat aagaccaact acttatacctg gtttcagaag 120
aaaccagggc agcctcccaa gctcctgata tatgatgcat ccactctggc atctgggggtc 180
ccatcgcgct tcagcggcag tggatctggg acacagttca ctctcaccat cagcgacctg 240
gagtgtgacg atgctgccac ttactactgt gcaggcgggt atagtatga tattaatgct 300
ttcggcggag ggaccgaggt ggaaatcaaa 330

<210> 42
<211> 354
<212> DNA
<213> Artificial Sequence

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

<400> 42
cagtcgttgg aggagtccgg gggagacctg gtcaagcctg gggcatccct gacactcacc 60
tgcacagcct ctggattctc cttcagtagc ggctactgga tatgctgggt ccgccaggct 120
ccagggaagg ggctggagtg gatcgcgtgc atttatactg gtgatggtga cacttcctac 180
gcgagctggg cgaaaggccg attcaccatc tccaaaacct cgtcgaccac ggtgactctg 240
caaatgacca gtctgacagt cgcggacacg gccatttatt tttgtgcgag agatactagt 300
ggtactttct attataattt gtggggccca ggcaccctgg tcgccgtctc ctca 354

<210> 43
<211> 330
<212> DNA
<213> Artificial Sequence

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

<400> 43
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atcagttgcc agtccagtga gagggtttat aagaccaact acttatacctg gtttcagaag 120
aaaccagggc agcctcccaa gctcctgata tatgatgcat ccactctggc atctgggggtc 180

ccatcgcgct tcagcggcag tggatctggg acacagttca ctctcaccat cagcgacctg	240
gagtgtgacg atgctgccac ttactactgt gcaggcggtt atagtgatga tattaatgct	300
ttcggcggag ggaccgaggt ggaaatcaaa	330

<210> 44
 <211> 354
 <212> DNA
 <213> Artificial Sequence

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

<400> 44	
cagtcgttgg aggagtccgg gggaggcctg gtcaagcctg agggatccct gacactcacc	60
tgcacagcct ctggattctc cttcggtagc ggctcctgga tatgttgggt ccgccaggct	120
ccagggaagg ggctggagtg gatcgcacgc atttatggta gtggtagtgg tgacactgcc	180
tacgcgacct gggcgaaagg ccgattcacc atctccaaaa cctcgtcgac cacggtgact	240
ctgcaaatga ccagtctgac agccgcggac acggccacct atttctgtgc gagggacagt	300
gattatgtgg actttgactt gtggggccca ggcaccctgg tcactgtctc ctca	354

<210> 45
 <211> 330
 <212> DNA
 <213> Artificial Sequence

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

<400> 45	
gcccaagtgc tgaccagac tccatcttcc acgtctgcgg ctgtgggagg cacagtcacc	60
atcaactgcc agtccagtca gagtgtttat aagaacaact acttatcctg gtttcagcag	120
aaaccagggc agcctcccaa gctcctgac tatctggcat ccactctggc atctggggtc	180
ccatcgcggt tcagcggcag tggatctggg acacagttca ctctcaccat cagcgacctg	240
gagtgtgacg atgctgccac ttactactgt gcaggcggtt atagtgatga tatttgtact	300
ttcggcggag ggaccgaggt ggtgggtcaaa	330

<210> 46
<211> 13
<212> PRT
<213> Artificial Sequence

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

<400> 46
Met Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Cys
1 5 10

<210> 47
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 47
Gly Leu Asn Gln Ile Trp Asn Val Lys
1 5