

57035WOPCT-seq1-000001
SEQUENCE LISTING

<110> NOVARTIS AG

<120> THYMIC STROMAL LYMPHOPOIETIN (TSLP)-BINDING MOLECULES AND METHODS
OF USING THE MOLECULES

<130> PAT057035-WO-PCT

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<150> 62/342,511

<151> 2016-05-27

<150> 62/216,050

<151> 2015-09-09

<160> 43

<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 Phe Thr Phe Ser Asp Tyr Trp Met His
1 5 10

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<211> 19

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<213> Artificial Sequence

<220>

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

<400> 2

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Val Lys Gly

<210> 3

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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

<400> 3

Glu Ile Tyr Tyr Tyr Ala Phe Asp Ser

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<210> 4

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

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

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Asp Tyr Trp Met His

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<210> 5

<211> 7

<212> PRT

<213> Artificial Sequence

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

<400> 5

Gly Phe Thr Phe Ser Asp Tyr

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<210> 6

<211> 8

<212> PRT

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

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<210> 7

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 7

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

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

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

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

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

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

Gly Thr Leu Val Thr Val Ser Ser

<210> 8
<211> 360
<212> DNA
<213> Artificial Sequence

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

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cctggtaaag gcttggagtg ggtcggacac attaatgcta agaccgacgc cggcactacc 180
gactacgccg ctcccgttaa gggccggttc actatctcta gggacgactc taagaacacc 240
ctctaccttc aaatgaatag ccttaagacc gaggacaccg ccgtctacta ctgcgctaga 300
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<210> 9
<211> 450
<212> PRT
<213> Artificial Sequence

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

<400> 9
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30
Trp Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly His Ile Lys Ser Lys Thr Asp Ala Gly Thr Thr Asp Tyr Ala Ala
50 55 60

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

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

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

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

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

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

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

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

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225 230 235 240

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

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
260 265 270

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Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
435 440 445

Gly Lys
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<210> 10
<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

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cctggtaaag gcttggagtg ggtcggacac attaatgcta agaccgacgc cggcactacc	180
gactacgccg ctcccgttaa gggccggttc actatctcta gggacgactc taagaacacc	240
ctctaccttc aaatgaatag ccttaagacc gaggacaccg ccgtctacta ctgcgctaga	300
gaaatctact actacgcctt cgatagctgg ggtcaaggca ccctcgtgac cgtgtctagc	360
gctagcacta agggcccaag tgtgtttccc ctggcccca gcagcaagtc tacttccggc	420
ggaactgctg ccctgggttg cctggtgaag gactacttcc ccgagcccgt gacagtgtcc	480
tggaactctg gggctctgac ttccggcgtg cacaccttcc ccgccgtgct gcagagcagc	540
ggcctgtaca gcctgagcag cgtggtgaca gtgccctcca gctctctggg aaccagacc	600
tatatctgca acgtgaacca caagcccagc aacaccaagg tggacaagag agtggagccc	660
aagagctgcg acaagacca cacctgcccc ccctgcccag ctccagaact gctgggaggg	720
ccttccgtgt tcctgttccc cccaagccc aaggacacc tgatgatcag caggaccccc	780
gaggtgacct gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaactgg	840
tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ccagagagga gcagtacaac	900
agcacctaca gggtggtgtc cgtgctgacc gtgctgcacc aggactggct gaacggcaaa	960
gaatacaagt gcaaagtctc caacaaggcc ctgccagccc caatcgaaaa gacaatcagc	1020
aaggccaagg gccagccacg ggagccccag gtgtacaccc tgccccccag ccgggaggag	1080
atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc cagcgatatc	1140
gccgtggagt gggagagcaa cggccagccc gagaacaact acaagaccac cccccagtg	1200
ctggacagcg acggcagctt cttcctgtac agcaagctga ccgtggacaa gtccaggtgg	1260
cagcagggca acgtgttcag ctgcagcgtg atgcacgagg ccctgcacaa ccactacacc	1320

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1350

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

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

<400> 11
Ser Gly Asp Asn Ile Gly Ser Lys Tyr Val His
1 5 10

<210> 12
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 12
Gly Asp Asn Glu Arg Pro Ser
1 5

<210> 13
<211> 10
<212> PRT
<213> Artificial Sequence

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

<400> 13
Gln Ala Ala Asp Trp Val Asp Phe Tyr Val
1 5 10

<210> 14
<211> 7
<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 14

Asp Asn Ile Gly Ser Lys Tyr

1 5

<210> 15

<211> 3

<212> PRT

<213> Artificial Sequence

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

<400> 15

Gly Asp Asn

1

<210> 16

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 16

Ala Asp Trp Val Asp Phe Tyr

1 5

<210> 17

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

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<400> 17

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

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

Gly Asp Asn Glu Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ala Gln Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Ala Asp Trp Val Asp Phe Tyr
85 90 95

Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 18

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

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caagcccccg tgctcgtgat ctacggcgat aacgagcggc ctacggaat ccccgagcgg	180
tttagcggct ctaatagcgg taacaccgct accctgacta tctctagggc tcaggccggc	240
gacgaggccg actactactg tcaggccgcc gactgggtgg acttctacgt gttcggcgga	300
ggcactaagc tgaccgtgct g	321

<210> 19

<211> 213

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 19

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

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

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

Gly Asp Asn Glu Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
 50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ala Gln Ala Gly
 65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Ala Asp Trp Val Asp Phe Tyr
 85 90 95

Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln Pro Lys Ala
 100 105 110

Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala
 115 120 125

Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala
 130 135 140

Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys Ala Gly Val
 145 150 155 160

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Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser
165 170 175

Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His Arg Ser Tyr
180 185 190

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

Pro Thr Glu Cys Ser
210

<210> 20

<211> 639

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

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caagcccccg tgctcgtgat ctacggcgat aacgagcggc ctagcggaat ccccgagcgg	180
tttagcggct ctaatagcgg taacaccgct accctgacta tctctagggc tcaggccggc	240
gacgaggccg actactactg tcaggccgcc gactgggtgg acttctacgt gttcggcgga	300
ggcactaagc tgaccgtgct ggggtcaacct aaggctgccc ccagcgtgac cctgttcccc	360
cccagcagcg aggagctgca ggccaacaag gccaccctgg tgtgcctgat cagcgacttc	420
taccagggcg ccgtgaccgt ggcctggaag gccgacagca gcccgtgaa ggccggcgtg	480
gagaccacca ccccgagcaa gcagagcaac aacaagtacg ccgccagcag ctacctgagc	540
ctgacccccg agcagtggaa gagccacagg tcctacagct gccaggtgac ccacgagggc	600
agcaccgtgg aaaagaccgt ggccccaacc gaggcagc	639

<210> 21

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

<400> 21

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cctggtaaag  gcctggagtg  ggtcggacac  attaagtcta  agaccgacgc  cggcactacc     180
gactacgccg  ctctgtgaa  gggccggttc  actatctcta  gggacgactc  taagaacacc     240
ctgtacctgc  agatgaatag  cctgaaaacc  gaggacaccg  ccgtctacta  ctgcgctaga     300
gagatctact  actacgcctt  cgatagctgg  ggtcagggca  ccctggtcac  cgtgtctagc     360

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<210> 22

<211> 223

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 22

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

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

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

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

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

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

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

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

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

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

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

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
210 215 220

<210> 23

<211> 669

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

<400> 23

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agctgcgctg ctagtggctt cacctttagc gactactgga tgcactgggt cagacaggcc 120

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 ggcaccgctg ctctgggctg cctgggtgaag gactacttcc ctgagcctgt gacagtgtcc 480
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 ggctgtact ccctgtcctc cgtgggtgaca gtgccttcct ccagcctggg caccagacc 600
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<210> 24

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<221> source

 <223> /note="Description of Artificial Sequence: Synthetic
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 caggcccccg tgctggatgat ctacggcgat aacgagcggc ctagcggat ccccgagcgg 180
 tttagcggct ctaatagcgg taacaccgct accctgacta tctctagggc tcaggccggc 240
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 ggcactaagc tgaccgtgct g 321

<210> 25

<211> 213

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 25

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

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

Gly Asp Asn Glu Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ala Gln Ala Gly
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Gln Ala Ala Asp Trp Val Asp Phe Tyr
85 90 95

Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gln Pro Lys Ala
100 105 110

Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala
115 120 125

Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala
130 135 140

Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys Ala Gly Val
145 150 155 160

Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser
165 170 175

Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His Arg Ser Tyr
180 185 190

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

Pro Thr Glu Cys Ser
210

<210> 26
<211> 639
<212> DNA
<213> Artificial Sequence

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

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cccagcagcg aggagctgca ggccaacaag gccaccctgg tgtgcctgat cagcgacttc 420
taccagggcg ccgtgaccgt ggcctggaag gccgacagca gccccgtgaa ggccggcgtg 480
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agcaccgtgg aaaagaccgt ggccccaacc gagtgcagc 639

<210> 27
<211> 159
<212> PRT
<213> Homo sapiens

<400> 27
Met Phe Pro Phe Ala Leu Leu Tyr Val Leu Ser Val Ser Phe Arg Lys
1 5 10 15

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Ile Phe Ile Leu Gln Leu Val Gly Leu Val Leu Thr Tyr Asp Phe Thr
20 25 30

Asn Cys Asp Phe Glu Lys Ile Lys Ala Ala Tyr Leu Ser Thr Ile Ser
35 40 45

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

Asn Thr Val Ser Cys Ser Asn Arg Pro His Cys Leu Thr Glu Ile Gln
65 70 75 80

Ser Leu Thr Phe Asn Pro Thr Ala Gly Cys Ala Ser Leu Ala Lys Glu
85 90 95

Met Phe Ala Met Lys Thr Lys Ala Ala Leu Ala Ile Trp Cys Pro Gly
100 105 110

Tyr Ser Glu Thr Gln Ile Asn Ala Thr Gln Ala Met Lys Lys Arg Arg
115 120 125

Lys Arg Lys Val Thr Thr Asn Lys Cys Leu Glu Gln Val Ser Gln Leu
130 135 140

Gln Gly Leu Trp Arg Arg Phe Asn Arg Pro Leu Leu Lys Gln Gln
145 150 155

<210> 28

<211> 2629

<212> DNA

<213> Homo sapiens

<400> 28

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aaggcaggcc ttacagatct cttacactcg tgggtgggaag agtttagtgt gaaactgggg 180

tggaattggg tgtccacgta tgttcccttt tgccttacta tatgttctgt cagtttcttt 240

caggaaaatc ttcattctac aacttgtagg gctggtgtta acttacgact tcactaactg 300

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tgactttgag aagattaaag cagcctatct cagtactatt tctaaagacc tgattacata	360
tatgagtggg accaaaagta ccgagttcaa caacaccgtc tcttgtagca atcggccaca	420
ttgccttact gaaatccaga gcctaacctt caatcccacc gccggctgcg cgtcgctcgc	480
caaagaaatg ttcgcatga aaactaaggc tgccttagct atctggtgcc caggctattc	540
ggaaactcag ataaatgcta ctcaggcaat gaagaagagg agaaaaagga aagtcacaac	600
caataaatgt ctggaacaag tgtcacaatt acaaggattg tggcgtcgct tcaatcgacc	660
tttactgaaa caacagtaaa ccatctttat tatggtcata tttcacagca ccaaaataaa	720
tcacatctttat taagtagatg aaacattaac tctaactgtg acaaagaaga ccacaaatag	780
ttatctttta attacagaag agtttcttaa cttacttttg taagttttta ttgtgtaagt	840
ttataatgca ggggaagtac tactcctcaa atgttgaggg aagcttccat aacattgatg	900
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<211> 63

<212> PRT

<213> Homo sapiens

<400> 29

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			20					25					30		

Lys	Arg	Lys	Val	Thr	Thr	Asn	Lys	Cys	Leu	Glu	Gln	Val	Ser	Gln	Leu
		35					40					45			

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<213> Homo sapiens

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<210> 31

<211> 131

<212> PRT

<213> *Macaca fascicularis*

<400> 31

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			20					25					30		

Thr	Asp	Phe	Asn	Asn	Thr	Val	Ser	Cys	Ser	Asn	Arg	Pro	His	Cys	Leu
			35				40					45			

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Thr Glu Ile Gln Ser Leu Thr Phe Asn Pro Thr Pro Arg Cys Ala Ser
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Leu Ala Lys Glu Met Phe Ala Arg Lys Thr Lys Ala Thr Leu Ala Leu
65 70 75 80

Trp Cys Pro Gly Tyr Ser Glu Thr Gln Ile Asn Ala Thr Gln Ala Met
85 90 95

Lys Lys Arg Arg Lys Arg Lys Val Thr Thr Asn Lys Cys Leu Glu Gln
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Val Ser Gln Leu Leu Gly Leu Trp Arg Arg Phe Ile Arg Thr Leu Leu
115 120 125

Lys Lys Gln
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<210> 32
<211> 393
<212> DNA
<213> Macaca fascicularis

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<210> 33
<211> 140
<212> PRT
<213> Mus musculus

<400> 33
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 Ile Tyr Cys Asn Ile Ile Phe His Asp Leu Thr Gly Asp Leu Lys Gly
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 Ala Lys Phe Glu Gln Ile Glu Asp Cys Glu Ser Lys Pro Ala Cys Leu
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 Leu Lys Ile Glu Tyr Tyr Thr Leu Asn Pro Ile Pro Gly Cys Pro Ser
 65 70 75 80
 Leu Pro Asp Lys Thr Phe Ala Arg Arg Thr Arg Glu Ala Leu Asn Asp
 85 90 95
 His Cys Pro Gly Tyr Pro Glu Thr Glu Arg Asn Asp Gly Thr Gln Glu
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<210> 34

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<212> DNA

<213> Mus musculus

<400> 34

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aggactgtga gagcaagcca gcttgtctcc tgaaaatcga gtactatact ctcaatccta 240

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aaa	1143

<210> 35

<211> 1146

<212> DNA

<213> Mus musculus

<400> 35

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<211> 136

<212> PRT

<213> Rattus norvegicus

<400> 36

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			20					25					30		

Tyr	His	Ala	Thr	Ile	Phe	Arg	Asp	Leu	Leu	Lys	Asp	Leu	Asn	Gly	Ile
		35					40					45			

Leu	Phe	Asp	Gln	Ile	Glu	Asp	Cys	Asp	Ser	Arg	Thr	Ala	Cys	Leu	Leu
		50				55						60			

Lys	Ile	Asp	His	His	Thr	Phe	Asn	Pro	Val	Pro	Gly	Cys	Pro	Ser	Leu
65					70					75					80

Pro	Glu	Lys	Ala	Phe	Ala	Leu	Lys	Thr	Lys	Ala	Ala	Leu	Ile	Asn	Tyr
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Cys Pro Gly Tyr Ser Glu Thr Glu Arg Asn Gly Thr Leu Glu Met Thr
 100 105 110

Arg Glu Ile Arg Asn Ile Cys Leu Asn Gln Thr Ser Gln Ile Leu Gly
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Leu Trp Leu Ser Cys Ile Gln Ser
 130 135

<210> 37

<211> 1125

<212> DNA

<213> Rattus norvegicus

<400> 37

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 <212> PRT
 <213> Artificial Sequence

<220>
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Gly Pro Tyr Asp Phe Thr Asn Cys Asp Phe Glu Lys Ile Lys Ala Ala
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Tyr Leu Ser Thr Ile Ser Lys Asp Leu Ile Thr Tyr Met Ser Gly Thr
 35 40 45

Lys Ser Thr Glu Phe Asn Asn Thr Val Ser Cys Ser Asn Arg Pro His
 50 55 60

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

Ala Ser Leu Ala Lys Glu Met Phe Ala Met Lys Thr Lys Ala Ala Leu
 85 90 95

Ala Ile Trp Cys Pro Gly Tyr Ser Glu Thr Gln Ile Asn Ala Thr Gln
 100 105 110

Ala Met Lys Lys Arg Arg Lys Arg Lys Val Thr Thr Asn Lys Cys Leu
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Glu Gln Val Ser Gln Leu Gln Gly Leu Trp Arg Arg Phe Asn Arg Pro

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135

140

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<210> 40
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<210> 41
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Ser Thr Ile Ser Lys Asp Leu Ile Thr Tyr Met Ser Gly Thr Lys Ser
20 25 30

Thr Glu Phe Asn Asn Thr Val Ser Cys Ser Asn Arg Pro His Cys Leu
35 40 45

Thr Glu Ile Gln Ser Leu Thr Phe Asn Pro Thr Ala Gly Cys Ala Ser
50 55 60

Leu Ala Lys Glu Met Phe Ala Met Lys Thr Lys Ala Ala Leu Ala Ile
65 70 75 80

Trp Cys Pro Gly Tyr Ser Glu Thr Gln Ile Asn Ala Thr Gln Ala Met
85 90 95

Lys Lys Arg Arg Lys Arg Lys Val Thr Thr Asn Lys Cys Leu Glu Gln
100 105 110

Val Ser Gln Leu Gln Gly Leu Trp Arg Arg Phe Asn Arg Pro Leu Leu
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Lys Gln Gln
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<210> 42

<211> 119

<212> PRT

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<220>

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

<400> 42

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

Trp Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

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35

40

45

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

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

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

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

Gly Thr Leu Val Thr Val Ser
115

<210> 43

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 43

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

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

Gly Asp Asn Glu Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser
50 55 60

Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ala Gln Ala Gly
65 70 75 80

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Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ala	Ala	Asp	Trp	Val	Asp	Phe	Tyr
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Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly	Gln
		100						105				