

SEQUENCE LISTING

<110> NOVARTIS AG

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

<130> PAT057035-WO-PCT

<140>

<141>

<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
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<210> 2

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 2

His	Ile	Lys	Ser	Lys	Thr	Asp	Ala	Gly	Thr	Thr	Asp	Tyr	Ala	Ala	Pro
1				5				10						15	

Val Lys Gly

<210> 3
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 3
Glu Ile Tyr Tyr Tyr Ala Phe Asp Ser
1 5

<210> 4
<211> 5
<212> PRT
<213> Artificial Sequence

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

<400> 4
Asp Tyr Trp Met His
1 5

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

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

<400> 5
Gly Phe Thr Phe Ser Asp Tyr
1 5

<210> 6
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source

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

<400> 6

Lys Ser Lys Thr Asp Ala Gly Thr
1 5

<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
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

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
115 120

<210> 8

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

<400> 8

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agctgcgctg ctagtggcctt cacctttagc gactactgga tgcactgggt tagacaggcc      120
cctggtaaag gcttggagtg ggtcggacac attaagtcta agaccgacgc cggcactacc      180
gactacgccg ctcccgttaa gggccggttc actatctcta gggacgactc taagaacacc      240
ctctaccttc aatgaatag ccttaagacc gaggacaccg ccgtctacta ctgcgctaga      300
gaaatctact actacgcctt cgatagctgg ggtcaaggca ccctcgtgac cgtgtctagc      360
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<210> 9

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 9

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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

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
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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

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
450

<210> 10
<211> 1350
<212> DNA
<213> Artificial Sequence

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

<400> 10
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cctggtaaag gcttggagtg ggtcggacac attaatgcta agaccgacgc cggcactacc	180
gactacgccg ctcccgttaa gggccgggttc 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 cctgggtgaag gactacttcc ccgagcccgt gacagtgtcc	480
tggaactctg gggctctgac ttccggcgtg cacaccttcc ccgccgtgct gcagagcagc	540
ggcctgtaca gcctgagcag cgtgggtgaca 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 ggggtgggtgtc cgtgctgacc gtgctgcacc aggactggct gaacggcaaa	960
gaatacaagt gcaaagtctc caacaaggcc ctgccagccc caatcgaaaa gacaatcagc	1020
aaggccaagg gccagccacg ggagccccag gtgtacaccc tgccccccag ccgggaggag	1080
atgaccaaga accaggtgtc cctgacctgt ctgggtgaagg gcttctatcc cagcgatatc	1140
gccgtggagt gggagagcaa cggccagccc gagaacaact acaagaccac cccccagt	1200
ctggacagcg acggcagctt cttcctgtac agcaagctga ccgtggacaa gtccaggtgg	1260
cagcagggca acgtgttcag ctgcagcgtg atgcacgagg ccctgcacaa ccactacacc	1320
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<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

<220>
<221> source
<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"

<400> 17
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
		100					105			

<210> 18
 <211> 321
 <212> DNA
 <213> Artificial Sequence

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

<400> 18	
agctacgagc tgactcagcc ccttagcggt agcgtggccc tgggtcaaac cgctagaatc	60
acctgtagcg gcgataatat cggctctaaa tacgttcact ggtatcagca gaagcccggg	120
caagcccccg tgctcgtgat ctacggcgat aacgagcggc ctagcggaat 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	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

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"

<400> 20

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acctgtagcg gcgataatat cggctctaaa tacgttcact ggtatcagca gaagcccgtt	120
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 gccccgtgaa ggccggcggtg	480
gagaccacca cccccagcaa gcagagcaac aacaagtacg ccgccagcag ctacctgagc	540
ctgacccccg agcagtggaa gagccacagg tcctacagct gccaggtgac ccacgagggc	600
agcaccgtgg aaaagaccgt ggccccaacc gagtgcagc	639

<210> 21

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

<400> 21

gaggtgcagc tgggtggaatc aggcggcgga ctgggtcaagc ctggcggttag cctgagactg	60
agctgcgctg ctagtgggctt cacctttagc gactactgga tgcactgggt cagacaggcc	120
cctggtaaag gcctggagtg ggtcggacac attaagtcta agaccgacgc cggcactacc	180
gactacgccg ctcctgtgaa gggccgggtt actatctcta gggacgactc taagaacacc	240
ctgtacctgc agatgaatag cctgaaaacc gaggacaccg ccgtctacta ctgcgctaga	300
gagatctact actacgcctt cgatagctgg ggtcagggca ccctgggtcac cgtgtctagc	360

<210> 22

<211> 223

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 22

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

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
 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

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 ccctgggtcac cgtgtctagc 360

gctagcacta agggcccctc cgtgttcctt ctggcccctt ccagcaagtc tacctctggc 420

ggcaccgctg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gacagtgtcc 480

tggaactctg gcgccctgac ctccggcgtg cacaccttcc ctgccgtgct gcagtcctcc 540

ggcctgtact ccctgtcctc cgtggtgaca gtgccttcct ccagcctggg caccagacc 600

tatatctgca acgtgaacca caagccttcc aacaccaagg tggacaagcg ggtggagcct 660

aagtcatgc 669

<210> 24

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<221> source

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

<400> 24

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acctgtagcg gcgataatat cggctctaaa tacgtgcact ggtatcagca gaagcccgg      120
caggcccccg tgctggatgat ctacggcgat aacgagcggc ctagcggaat ccccgagcgg      180
tttagcggct ctaatagcgg taacaccgct accctgacta tctctagggc tcaggccggc      240
gacgaggccg actactactg tcaggccgcc gactgggtgg acttctacgt gttcggcgga      300
ggcactaagc tgaccgtgct g                                     321
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<210> 25

<211> 213

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 25

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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
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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

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"

<400> 26
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caggcccccg tgctggtgat ctacggcgat aacgagcggc ctacggaat ccccgagcgg 180
tttagcggct ctaatagcgg taacaccgct accctgacta tctctagggc tcaggccggc 240
gacgaggccg actactactg tcaggccgcc gactgggtgg acttctacgt gttcggcgga 300
ggcactaagc tgaccgtgct gggtcagcct aaggctgccc ccagcgtgac cctgttcccc 360
cccagcagcg aggagctgca ggccaacaag gccaccctgg tgtgcctgat cagcgacttc 420

tacccaggcg ccgtgaccgt ggcctggaag gccgacagca gccccgtgaa ggccggcgtg	480
gagaccacca cccccagcaa gcagagcaac aacaagtacg ccgccagcag ctacctgagc	540
ctgacccccg agcagtggaa gagccacagg tcctacagct gccaggtgac ccacgagggc	600
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

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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taagggcttc ctgtggactg gcaatgagag gcaaacctg gtgcttgagc actggcccct 120
aaggcaggcc ttacagatct cttacactcg tgggtgggaag agtttagtgt gaaactgggg 180
tggaattggg tgtccacgta tgttcccttt tgccttacta tatgttctgt cagtttcttt 240
caggaaaatc ttcattctac aactttagag gctggtgtta acttacgact tctaactg 300
tgactttgag aagattaaag cagcctatct cagtactatt tctaaagacc tgattacata 360
tatgagtggg accaaaagta ccgagttcaa caacaccgtc tctttagtagca atcggccaca 420
ttgccttact gaaatccaga gcctaactt caatcccacc gccggctgcg cgtcgctcgc 480
caaagaaatg ttcgcatga aaactaaggc tgccttagct atctggtgcc caggctattc 540
ggaaactcag ataaatgcta ctcaggcaat gaagaagagg agaaaaagga aagtcacaac 600
caataaatgt ctggaacaag tgtcacaatt acaaggattg tggcgctcgt tcaatcgacc 660
tttactgaaa caacagtaaa ccatctttat tatggtcata tttcacagca ccaaaataaa 720
tcattctttat taagtagatg aaacattaac tctaactgtg acaaagaaga ccacaaatag 780
ttatctttta attacagaag agtttcttaa cttacttttg taagttttta ttgtgtaagt 840
ttataatgca ggggaagtac tactcctcaa atgttgaggg aagcttccat aacattgatg 900
actggcttca tggcagtaat tctcggctgt agttgcataa gcattgctca agaggaaaat 960
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atacatctct ggttttttaa atgtattgag gctttcttgg tggactagta tagtatacgg	2580
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<210> 29

<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

Gln Gly Leu Trp Arg Arg Phe Asn Arg Pro Leu Leu Lys Gln Gln
 50 55 60

<210> 30

<211> 2411

<212> DNA

<213> Homo sapiens

<400> 30

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aagcattgct	caagaggaaa	atccaaaagt	gcagcaggag	aactcttttc	cctgaaaaag	780
gaaaaatatt	gaactcaatg	atagcaccta	aacttacatt	taaaagacag	acattccttc	840
tacatgtaat	gacacttctt	gtgttaaact	aaaaatttac	aagagaagaa	agtgaagca	900
aatgggggtt	cacaaatagt	tgtaaataata	gtgaagcaat	ttgaaataat	tttcaagcaa	960
agtattgtga	aagtattcta	agccaagttt	taaatattat	ctaacagaca	agagtggtat	1020
atacaagtag	atcctgagaa	gtacctttgt	tacagctact	ataaatatac	atataaatta	1080
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aagggaacc cactgcacgt gggaatgcac tgatttttcc taggagtaga catgttcctc	1620
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<210> 31

<211> 131

<212> PRT

<213> Macaca fascicularis

<400> 31

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1

5

10

15

Arg Thr Ile Ser Lys Asp Leu Ile Thr Tyr Met Ser Gly Thr Lys Ser
20 25 30

Thr Asp 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 Pro Arg Cys Ala Ser
50 55 60

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
100 105 110

Val Ser Gln Leu Leu Gly Leu Trp Arg Arg Phe Ile Arg Thr Leu Leu
115 120 125

Lys Lys Gln
130

<210> 32

<211> 393

<212> DNA

<213> Macaca fascicularis

<400> 32

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tgagcaaca gacccactg cctgaccgag atccagagcc tgaccttcaa cccaccccc 180

agatgtgcca gcctggccaa agagatgttc gccagaaaga ccaaggccac cctggccctg 240

tggtgtcccg gctacagcga gacacagatc aacgccacac aggccatgaa gaagcggcgg 300

aagcggaaaag tgaccaccaa caagtgcctg gaacaggtgt cacagctgct ggggctgtgg 360

cggcggttca tccggaccct gctgaagaag cag 393

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

<400> 33
 Met Val Leu Leu Arg Ser Leu Phe Ile Leu Gln Val Leu Val Arg Met
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Gly Leu Thr Tyr Asn Phe Ser Asn Cys Asn Phe Thr Ser Ile Thr Lys
 20 25 30

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

Ala Lys Phe Glu Gln Ile Glu Asp Cys Glu Ser Lys Pro Ala Cys Leu
 50 55 60

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
 100 105 110

Met Ala Gln Glu Val Gln Asn Ile Cys Leu Asn Gln Thr Ser Gln Ile
 115 120 125

Leu Arg Leu Trp Tyr Ser Phe Met Gln Ser Pro Glu
 130 135 140

<210> 34
 <211> 1143
 <212> DNA
 <213> Mus musculus

<400> 34
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 gtaacataat ttttcatgac ctgactggag atttgaaagg ggctaagttc gagcaaatcg 180

aggactgtga gagcaagcca gcttgtctcc tgaaaatcga gtactatact ctcaatccta	240
tccctggctg cccttcactc cccgacaaaa catttgcccg gagaacaaga gaagccctca	300
atgaccactg cccaggctac cctgaaactg agagaaatga cgggtactcag gaaatggcac	360
aagaagtcca aaacatctgc ctgaatcaaa cctcacaaat tctaagattg tgggtattcct	420
tcatgcaatc tccagaataa aattagcttt cagcttctgc tatgaaaatc tctatcttgg	480
ttttagtgga cagaatacta aggggtgtgac acttagagga ccactgggtgt ttattcttta	540
attacagaag ggattcttaa cttatTTTTT ggcatatcgc ttttttcagt ataggtgctt	600
taaatgggaa atgagcaata gaccgttaat ggaaatatct gtactgttaa tgaccagctt	660
ctgagaagtc tttctcacct cccctgcaca caccttactc tagggcaaac ctaactgtag	720
taggaagaga attgaaagta gaaaaaaaa attaaaacca atgacagcat ctaaaccctg	780
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ttaccaaaga agaaaatgac agttcgggca gtcactgcc a tgatgaggtg gtctgaaaga	900
agattgtgga atctgggaga aactgctgag atcatattgc aaatccagct gtcaaagggt	960
tcagaccag gacagtacaa ttcgtgagca gatctcaaga gccttgaca tctacgagat	1020
atatatttaa agttgtagat aatgaatttc taatttattt tgtgagcact tttgaaata	1080
tacatgctac tttgtaatga atacatttct gaataaagta attctcaagt ttgaaaaaaaa	1140
aaa	1143

<210> 35
 <211> 1146
 <212> DNA
 <213> Mus musculus

<400> 35	
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gtccctttca ttcaattttt aatatctggc gggttttttt ttttttttct ctctctctga	180
actgtgccgc ttgtgagcag ccagcttgct tcctgaaaat cgagtactat actctcaatc	240
ctatccctgg ctgcccttca ctccccgaca aaacatttgc ccggagaaca agagaagccc	300
tcaatgacca ctgcccaggc taccctgaaa ctgagagaaa tgacggtact caggaaatgg	360

cacaagaagt ccaaaacatc tgcctgaatc aaacctcaca aattctaaga ttgtggtatt	420
ccttcatgca atctccagaa taaaattagc tttcagcttc tgctatgaaa atctctatct	480
tggttttagt ggacagaata ctaagggtgt gacacttaga ggaccactgg tgttttattct	540
ttaattacag aagggtattct taacttattt tttggcatat cgcttttttc agtatagggtg	600
ctttaaatgg gaaatgagca atagaccgtt aatggaaata tctgtactgt taatgaccag	660
cttctgagaa gtcttttctca cctcccctgc acacacctta ctctagggca aacctaactg	720
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ggttcagacc caggacagta caattcgtga gcagatctca agagccttgc acatctacga	1020
gatatatatt taaagttgta gataatgaat ttctaattta ttttgtgagc acttttgtaa	1080
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aaaaaa	1146

<210> 36
 <211> 136
 <212> PRT
 <213> Rattus norvegicus

<400> 36
 Met Val Leu Phe Arg Tyr Leu Phe Ile Leu Gln Val Val Arg Leu Ala
 1 5 10 15

Leu Thr Tyr Asn Phe Ser Asn Cys Asn Phe Glu Met Ile Leu Arg Ile
 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
85 90 95

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
115 120 125

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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atttttcgtg acctgcttaa agatttgaat gggatcttgt tcgaccaaatt cgaggactgt 180
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tgcccaggct actctgaaac tgagagaaat ggtactctgg aaatgacacg agaaatcaga 360
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gattcttaac ttatTTTTGG catatcgttg tttagtgtag gcgcttttaa tggaaaatga 600
gcattacccc ttaaatggaa ataaccgtgc tgtaaatgat tggcttcggc ttctgagcag 660
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accacagtgg gatgcacagg cagatcccca agggcattgt gcagctgtga gatatatatt 1020
 taaagttgta tataatgatt ttctaattta ttccgtgagc acctttgaaa atatacatgt 1080
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<210> 38
 <211> 149
 <212> PRT
 <213> Artificial Sequence

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

<400> 38
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Gly Pro Tyr Asp Phe Thr Asn Cys Asp Phe Glu Lys Ile Lys Ala Ala
 20 25 30

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
 115 120 125

Glu Gln Val Ser Gln Leu Gln Gly Leu Trp Arg Arg Phe Asn Arg Pro
 130 135 140

Leu Leu Lys Gln Gln
145

<210> 39
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown: Potential
furin cleavage site"

<400> 39
Arg Arg Lys Arg
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<210> 40
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
6xHis tag"

<400> 40
His His His His His His
1 5

<210> 41
<211> 131
<212> PRT
<213> Artificial Sequence

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

<400> 41
Tyr Asp Phe Thr Asn Cys Asp Phe Glu Lys Ile Lys Ala Ala Tyr Leu
1 5 10 15

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
115 120 125

Lys Gln Gln
130

<210> 42

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<221> source

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

<400> 42

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

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
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
100 105

