

SEQUENCE LISTING

<110> Xigen S.A.

<120> Use of cell-permeable peptide inhibitors of the JNK signal transduction pathway for the treatment of chronic or non-chronic inflammatory eye diseases

<130> CX01P033W02

<150> PCT/EP2010/006284

<151> 2010-10-14

<150> PCT/EP2011/000307

<151> 2011-01-25

<160> 105

<170> PatentIn version 3.5

<210> 1

<211> 19

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide L-IB1(s) (see Table 1)

<400> 1

Arg Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg
1 5 10 15

Ser Gln Asp

<210> 2

<211> 19

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide D-IB1(s) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(19)

<223> all amino acids are D-amino acids

<400> 2

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10 15

Lys Pro Arg

<210> 3

<211> 19

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide L-IB (generic) (s) (see Table 1)

<220>
 <221> misc_feature
 <223> Description of sequence: Description of sequence: general
 formula: NH₂-Xnb-RPTTLXLXXXXXXXQD-Xna-Xnb-COOH (see Table 1)

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa
 represents an amino acid residue, preferably selected from any
 (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5,
 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> misc_feature
 <222> (2)..(2)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> VARIANT
 <222> (8)..(8)
 <223> Xaa represents an amino acid residue, preferably selected from
 any (native) amino acid residue;

<220>
 <221> VARIANT
 <222> (10)..(16)
 <223> Xaa represents an amino acid residue, preferably selected from
 any (native) amino acid residue;

<220>
 <221> VARIANT
 <222> (18)..(18)
 <223> Xaa is Xna as defined in the general formula, wherein Xaa
 represents an amino acid residue, preferably selected from any
 (native) amino acid residue except serine and threonine

<220>
 <221> REPEAT
 <222> (18)..(18)
 <223> Xaa is Xna as defined in the general formula, wherein n is 0 or 1

<220>
 <221> REPEAT
 <222> (19)..(19)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5,
 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> VARIANT
 <222> (19)..(19)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa
 represents an amino acid residue, preferably selected from any
 (native) amino acid residue;

<400> 3
 Xaa Xaa Arg Pro Thr Thr Leu Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15

Gln Asp Xaa

<210> 4
 <211> 19
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide D-IB (generic) (s) (see Table 1)

<220>
 <221> misc_feature
 <223> Description of sequence: general formula:
 NH₂-Xnb-Xna-DQXXXXXXXXLXLTPR-Xnb-COOH,

<220>
 <221> MUTAGEN
 <222> (1)..(19)
 <223> all amino acids are D-amino acids

<220>
 <221> VARIANT
 <222> (1)..(11)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> REPEAT
 <222> (2)..(2)
 <223> Xaa is Xna as defined in the general formula, wherein n is 0 or 1

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> Xaa is Xna as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue except serine and Threonine

<220>
 <221> VARIANT
 <222> (4)..(10)
 <223> Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> VARIANT
 <222> (12)..(12)
 <223> Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (19)..(19)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> VARIANT
 <222> (19)..(19)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa

represents an amino acid residue, preferably selected from any (native) amino acid residue;

<400> 4

Xaa Asp Gln Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Leu Thr Thr Pro
1 5 10 15

Arg Xaa Xaa

<210> 5
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: Peptide L-TAT (see Table 1)

<400> 5

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

<210> 6
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: Peptide D-TAT (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(10)
<223> all amino acids are D-amino acids

<400> 6

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

<210> 7
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: Peptide L-generic-TAT (s) (see Table 1)

<220>
<221> misc_feature
<223> General formula: NH₂-Xnb-RKKRRQRRR-Xnb-COOH (see Table 1)

<220>
<221> VARIANT
<222> (1)..(1)
<223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
<221> REPEAT

<222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> VARIANT
 <222> (11)..(11)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (11)..(11)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<400> 7
 Xaa Arg Lys Lys Arg Arg Gln Arg Arg Arg Xaa
 1 5 10

<210> 8
 <211> 11
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide D-generic-TAT (s) (see Table 1)

<220>
 <221> misc_feature
 <223> General formula: NH₂-Xnb-RRRQRRKKR-Xnb-COOH

<220>
 <221> MUTAGEN
 <222> (1)..(10)
 <223> all amino acids are D-amino acids

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> VARIANT
 <222> (11)..(11)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (11)..(11)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<400> 8

Xaa Arg Arg Arg Gln Arg Arg Lys Lys Arg Xaa
 1 5 10

<210> 9
 <211> 31
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: L-TAT-IB1 (s) (see Table 1)

<400> 9

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Arg Pro Lys Arg
 1 5 10 15

Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
 20 25 30

<210> 10
 <211> 29
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide L-TAT (generic) (s) (see Table 1)

<220>
 <221> misc_feature
 <223> Description of sequence: General formula:
 NH₂-Xnb-RKKRRQRRR-Xnb-RPTTLXLXXXXXXQD-Xna-Xnb-COOH

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> VARIANT
 <222> (11)..(11)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (11)..(11)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> misc_feature
 <222> (12)..(12)
 <223> Xaa can be any naturally occurring amino acid

<220>

<221> VARIANT
 <222> (18)..(18)
 <223> Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

 <220>
 <221> VARIANT
 <222> (20)..(26)
 <223> Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

 <220>
 <221> VARIANT
 <222> (28)..(28)
 <223> Xaa is Xna as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue except serine and Threonine

 <220>
 <221> REPEAT
 <222> (28)..(28)
 <223> Xaa is Xna as defined in the general formula, wherein n is 0 or 1

 <220>
 <221> VARIANT
 <222> (29)..(29)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

 <220>
 <221> REPEAT
 <222> (29)..(29)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

 <400> 10

Xaa Arg Lys Lys Arg Arg Gln Arg Arg Arg Xaa Xaa Arg Pro Thr Thr
 1 5 10 15

Leu Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln Asp Xaa
 20 25

<210> 11
 <211> 31
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptid D-TAT-IB1 (s) (see Table 1)

<220>
 <221> MUTAGEN
 <222> (1)..(31)
 <223> all amino acids are D-amino acids

<400> 11
 Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
 1 5 10 15

Lys Pro Arg Pro Pro Arg Arg Arg Gln Arg Arg Lys Lys Arg Gly
 20 25 30

<210> 12
 <211> 29
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptid: D-TAT (generic) (s) (see Table 1)

<220>
 <221> misc_feature
 <223> General formula:
 NH2-Xnb-Xna-DQXXXXXXXXLXLTPR-Xnb-RRRQRRKKR-Xnb-COOH,

<220>
 <221> MUTAGEN
 <222> (1)..(19)
 <223> all amino acids are D-amino acids

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (1)..(1)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> Xaa is Xna as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue except serine and threonine

<220>
 <221> REPEAT
 <222> (2)..(2)
 <223> Xaa is Xna as defined in the general formula, wherein n is 0 or 1

<220>
 <221> VARIANT
 <222> (4)..(10)
 <223> Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> VARIANT
 <222> (12)..(12)
 <223> Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> VARIANT
 <222> (19)..(19)
 <223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>
 <221> REPEAT
 <222> (19)..(19)
 <223> Xaa is Xnb as defined in the general formula, wherein n is 0-5,

5-10, 10-15, 15-20, 20-30 or more for Xnb

<220>

<221> VARIANT

<222> (29)..(29)

<223> Xaa is Xnb as defined in the general formula, wherein Xaa represents an amino acid residue, preferably selected from any (native) amino acid residue;

<220>

<221> REPEAT

<222> (29)..(29)

<223> Xaa is Xnb as defined in the general formula, wherein n is 0-5, 5-10, 10-15, 15-20, 20-30 or more for Xnb

<400> 12

Xaa Asp Gln Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Leu Thr Thr Pro
1 5 10 15

Arg Xaa Xaa Arg Arg Arg Gln Arg Arg Lys Lys Arg Xaa
20 25

<210> 13

<211> 29

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: peptide IB1-long (see Table 1)

<400> 13

Pro Gly Thr Gly Cys Gly Asp Thr Tyr Arg Pro Lys Arg Pro Thr Thr
1 5 10 15

Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp Thr
20 25

<210> 14

<211> 27

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide IB2-long (see Table 1)

<400> 14

Ile Pro Ser Pro Ser Val Glu Glu Pro His Lys His Arg Pro Thr Thr
1 5 10 15

Leu Arg Leu Thr Thr Leu Gly Ala Gln Asp Ser
20 25

<210> 15

<211> 29

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide derived from c-Jun (see Table 1)

<400> 15

Gly Ala Tyr Gly Tyr Ser Asn Pro Lys Ile Leu Lys Gln Ser Met Thr
1 5 10 15

Leu Asn Leu Ala Asp Pro Val Gly Asn Leu Lys Pro His
20 25

<210> 16

<211> 29

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide derived from ATF2 (see Table 1)

<400> 16

Thr Asn Glu Asp His Leu Ala Val His Lys His Lys His Glu Met Thr
1 5 10 15

Leu Lys Phe Gly Pro Ala Arg Asn Asp Ser Val Ile Val
20 25

<210> 17

<211> 23

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide L-IB1 (see Table 1)

<400> 17

Asp Thr Tyr Arg Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln
1 5 10 15

Val Pro Arg Ser Gln Asp Thr
20

<210> 18

<211> 23

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: Peptide D-IB1 (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(23)

<223> all amino acids are D-amino acids

<400> 18

Thr Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro
1 5 10 15

Arg Lys Pro Arg Tyr Thr Asp
20

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

<220>
 <223> Description of sequence: Peptide L-IB (generic) (see Table 1)

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> Xaa is selected from any amino acid residue,

<220>
 <221> VARIANT
 <222> (7)..(7)
 <223> Xaa is selected from any amino acid residue,

<220>
 <221> VARIANT
 <222> (9)..(15)
 <223> Xaa is selected from any amino acid residue,

<220>
 <221> VARIANT
 <222> (18)..(18)
 <223> Xaa is selected from serine or threonine,

<220>
 <221> VARIANT
 <222> (19)..(19)
 <223> Xaa is selected from any amino acid residue,

<400> 19

Xaa Arg Pro Thr Thr Leu Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Gln
 1 5 10 15

Asp Xaa Xaa

<210> 20
 <211> 19
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide D-IB (generic) (see Table 1)

<220>
 <221> MUTAGEN
 <222> (1)..(19)
 <223> all amino acids are D-amino acids

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> Xaa is selected from any amino acid residue

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> Xaa is selected from serine or threonine

<220>
 <221> VARIANT
 <222> (5)..(11)
 <223> Xaa is selected from any amino acid residue

<220>
 <221> VARIANT
 <222> (13)..(13)
 <223> Xaa is selected from any amino acid residue

<220>
 <221> VARIANT
 <222> (19)..(19)
 <223> Xaa is selected from any amino acid residue

<400> 20

Xaa Xaa Asp Gln Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Leu Thr Thr
 1 5 10 15

Pro Arg Xaa

<210> 21
 <211> 17
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide L-generic-TAT (see Table 1)

<220>
 <221> VARIANT
 <222> (1)..(17)
 <223> Xaa is selected from any amino acid residue

<400> 21

Xaa Xaa Xaa Xaa Arg Lys Lys Arg Arg Gln Arg Arg Arg Xaa Xaa Xaa
 1 5 10 15

Xaa

<210> 22
 <211> 17
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide D-generic-TAT (see Table 1)

<220>
 <221> MUTAGEN
 <222> (1)..(17)
 <223> all amino acids are D-amino acids

<220>
 <221> VARIANT
 <222> (1)..(17)
 <223> Xaa is selected from any amino acid residue

<400> 22

Xaa Xaa Xaa Xaa Arg Arg Arg Gln Arg Arg Lys Lys Arg Xaa Xaa Xaa
 1 5 10 15

Xaa

<210> 23
 <211> 35
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide L-TAT-IB1 (see Table 1)

<400> 23

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Asp Thr Tyr Arg
 1 5 10 15

Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser
 20 25 30

Gln Asp Thr
 35

<210> 24
 <211> 42
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: Peptide L-TAT IB (generic) (see Table 1)

<220>
 <221> VARIANT
 <222> (1)..(40)
 <223> Xaa is selected from any amino acid residue

<220>
 <221> VARIANT
 <222> (41)..(41)
 <223> Xaa is selected from serine or threonine

<220>
 <221> VARIANT
 <222> (42)..(42)
 <223> Xaa is selected from any amino acid residue

<400> 24

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Lys Lys Arg Arg Gln Arg Arg Arg
 1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Pro Thr Thr Leu Xaa Leu Xaa
 20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Gln Asp Xaa Xaa
 35 40

<210> 25
<211> 35
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: Peptide D-TAT-IB1 (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(35)
<223> all amino acids are D-amino acids

<400> 25

Thr Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro
1 5 10 15

Arg Lys Pro Arg Tyr Thr Asp Pro Pro Arg Arg Arg Gln Arg Arg Lys
20 25 30

Lys Arg Gly
35

<210> 26
<211> 42
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: Peptide D-TAT IB (generic) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(42)
<223> all amino acids are D-amino acids

<220>
<221> VARIANT
<222> (1)..(1)
<223> Xaa is selected from any amino acid residue

<220>
<221> VARIANT
<222> (2)..(2)
<223> Xaa is selected from serine or threonine

<220>
<221> VARIANT
<222> (3)..(42)
<223> Xaa is selected from any amino acid residue

<400> 26

Xaa Xaa Asp Gln Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Leu Thr Thr
1 5 10 15

Pro Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Arg Arg Gln Arg Arg
20 25 30

Lys Lys Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40

<210> 27
<211> 30
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: chimeric peptide sequence L-TAT-IB1(s1)
(see Table 1)

<400> 27

Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Arg Pro Lys Arg Pro
1 5 10 15

Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
20 25 30

<210> 28
<211> 30
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: chimeric peptide sequence L-TAT-IB1(s2)
(see Table 1)

<220>
<221> VARIANT
<222> (11)..(11)
<223> Xaa is selected from glycine or proline

<220>
<221> REPEAT
<222> (11)..(11)
<223> Xaa is Xnc as defined in the general formula, wherein n is 0-5,
5-10, 10-15, 15-20, 20-30 or more for Xnc

<400> 28

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Xaa Arg Pro Lys Arg Pro
1 5 10 15

Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
20 25 30

<210> 29
<211> 29
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: chimeric peptide sequence L-TAT-IB1(s3)
(see Table 1)

<220>
<221> VARIANT
<222> (10)..(10)
<223> Xaa is selected from glycine or proline

<220>
<221> REPEAT

<222> (10)..(10)
<223> Xaa is Xnc as defined in the general formula, wherein n is 0-5,
5-10, 10-15, 15-20, 20-30 or more for Xnc

<400> 29

Arg Lys Lys Arg Arg Gln Arg Arg Arg Xaa Arg Pro Lys Arg Pro Thr
1 5 10 15

Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
20 25

<210> 30
<211> 30
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: chimeric peptide sequence D-TAT-IB1(s1)
(see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(30)
<223> all amino acids are D-amino acids

<400> 30

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10 15

Lys Pro Arg Pro Pro Arg Arg Arg Gln Arg Arg Lys Lys Arg
20 25 30

<210> 31
<211> 30
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: chimeric peptide sequence D-TAT-IB1(s2)
(see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(30)
<223> all amino acids are D-amino acids

<220>
<221> VARIANT
<222> (20)..(20)
<223> Xaa is selected from glycine or proline

<220>
<221> REPEAT
<222> (20)..(20)
<223> Xaa is Xnc as defined in the general formula, wherein n is 0-5,
5-10, 10-15, 15-20, 20-30 or more for Xnc

<400> 31

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10 15

Lys Pro Arg Xaa Arg Arg Arg Gln Arg Arg Lys Lys Arg Gly
20 25 30

<210> 32
<211> 29
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: chimeric peptide sequence D-TAT-IB1(s3)
(see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(29)
<223> all amino acids are D-amino acids

<220>
<221> VARIANT
<222> (20)..(20)
<223> Xaa is selected from glycine or proline

<220>
<221> REPEAT
<222> (20)..(20)
<223> Xaa is Xnc as defined in the general formula, wherein n is 0-5,
5-10, 10-15, 15-20, 20-30 or more for Xnc

<400> 32

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10 15

Lys Pro Arg Xaa Arg Arg Arg Gln Arg Arg Lys Lys Arg
20 25

<210> 33
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s1) (see Table 1)

<400> 33

Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
1 5 10

<210> 34
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s2) (see Table 1)

<400> 34

Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln
1 5 10

<210> 35
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s3) (see Table 1)

<400> 35

Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser
1 5 10

<210> 36
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s4) (see Table 1)

<400> 36

Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg
1 5 10

<210> 37
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s5) (see Table 1)

<400> 37

Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro
1 5 10

<210> 38
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s6) (see Table 1)

<400> 38

Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val
1 5 10

<210> 39
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s7) (see Table 1)

<400> 39

Arg Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln
1 5 10

<210> 40
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s8) (see Table 1)

<400> 40

Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
1 5 10

<210> 41
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s9) (see Table 1)

<400> 41

Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln
1 5 10

<210> 42
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s10) (see Table 1)

<400> 42

Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser
1 5 10

<210> 43
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s11) (see Table 1)

<400> 43

Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg
1 5 10

<210> 44
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s12) (see Table 1)

<400> 44

Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro
Seite 19

1 5 10

<210> 45
 <211> 12
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: L-IB1(s13) (see Table 1)

<400> 45

Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val
 1 5 10

<210> 46
 <211> 12
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: L-IB1(s14) (see Table 1)

<400> 46

Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln
 1 5 10

<210> 47
 <211> 12
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: L-IB1(s15) (see Table 1)

<400> 47

Arg Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro
 1 5 10

<210> 48
 <211> 11
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: L-IB1(s16) (see Table 1)

<400> 48

Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
 1 5 10

<210> 49
 <211> 11
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: L-IB1(s17) (see Table 1)

<400> 49

Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln
1 5 10

<210> 50
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s18) (see Table 1)

<400> 50

Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser
1 5 10

<210> 51
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s19) (see Table 1)

<400> 51

Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg
1 5 10

<210> 52
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s20) (see Table 1)

<400> 52

Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro
1 5 10

<210> 53
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s21) (see Table 1)

<400> 53

Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val
1 5 10

<210> 54
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s22) (see Table 1)

<400> 54

Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln
1 5 10

<210> 55
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s23) (see Table 1)
<400> 55

Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro
1 5 10

<210> 56
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s24) (see Table 1)
<400> 56

Arg Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe
1 5 10

<210> 57
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s25) (see Table 1)
<400> 57

Leu Phe Pro Gln Val Pro Arg Ser Gln Asp
1 5 10

<210> 58
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s26) (see Table 1)
<400> 58

Asn Leu Phe Pro Gln Val Pro Arg Ser Gln
1 5 10

<210> 59
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: L-IB1(s27) (see Table 1)

<400> 59

Leu Asn Leu Phe Pro Gln Val Pro Arg Ser
1 5 10

<210> 60

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: L-IB1(s28) (see Table 1)

<400> 60

Thr Leu Asn Leu Phe Pro Gln Val Pro Arg
1 5 10

<210> 61

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: L-IB1(s29) (see Table 1)

<400> 61

Thr Thr Leu Asn Leu Phe Pro Gln Val Pro
1 5 10

<210> 62

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: L-IB1(s30) (see Table 1)

<400> 62

Pro Thr Thr Leu Asn Leu Phe Pro Gln Val
1 5 10

<210> 63

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: L-IB1(s31) (see Table 1)

<400> 63

Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln
1 5 10

<210> 64

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: L-IB1(s32) (see Table 1)

<400> 64

Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro
1 5 10

<210> 65

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: L-IB1(s33) (see Table 1)

<400> 65

Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe
1 5 10

<210> 66

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: L-IB1(s34) (see Table 1)

<400> 66

Arg Pro Lys Arg Pro Thr Thr Leu Asn Leu
1 5 10

<210> 67

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s1) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(13)

<223> all amino acids are D-amino acids

<400> 67

Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys Pro Arg
1 5 10

<210> 68

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s2) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(13)

<223> all amino acids are D-amino acids

<400> 68

Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys Pro
1 5 10

<210> 69

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s3) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(13)

<223> all amino acids are D-amino acids

<400> 69

Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys
1 5 10

<210> 70

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s4) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(13)

<223> all amino acids are D-amino acids

<400> 70

Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10

<210> 71

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s5) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(13)

<223> all amino acids are D-amino acids

<400> 71

Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro
1 5 10

<210> 72

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s6) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(13)

<223> all amino acids are D-amino acids

<400> 72

Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr
1 5 10

<210> 73

<211> 13

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s7) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(13)

<223> all amino acids are D-amino acids

<400> 73

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr
1 5 10

<210> 74

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s8) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(12)

<223> all amino acids are D-amino acids

<400> 74

Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys Pro Arg
1 5 10

<210> 75

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s9) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(12)

<223> all amino acids are D-amino acids

<400> 75

Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys Pro
1 5 10

<210> 76

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s10) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(12)

<223> all amino acids are D-amino acids

<400> 76

Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys
1 5 10

<210> 77

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s11) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(12)

<223> all amino acids are D-amino acids

<400> 77

Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10

<210> 78

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s12) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(12)

<223> all amino acids are D-amino acids

<400> 78

Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro
1 5 10

<210> 79

<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s13) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(12)
<223> all amino acids are D-amino acids

<400> 79

Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr
1 5 10

<210> 80
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s14) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(12)
<223> all amino acids are D-amino acids

<400> 80

Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr
1 5 10

<210> 81
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s15) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(12)
<223> all amino acids are D-amino acids

<400> 81

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu
1 5 10

<210> 82
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s16) (see Table 1)

<220>

<221> MUTAGEN
<222> (1)..(11)
<223> all amino acids are D-amino acids

<400> 82

Phe Leu Asn Leu Thr Thr Pro Arg Lys Pro Arg
1 5 10

<210> 83
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s17) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(11)
<223> all amino acids are D-amino acids

<400> 83

Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys Pro
1 5 10

<210> 84
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s18) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(11)
<223> all amino acids are D-amino acids

<400> 84

Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys
1 5 10

<210> 85
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s19) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(11)
<223> all amino acids are D-amino acids

<400> 85

Val Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10

<210> 86
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s20) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(11)
<223> all amino acids are D-amino acids

<400> 86

Pro Val Gln Pro Phe Leu Asn Leu Thr Thr Pro
1 5 10

<210> 87
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s21) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(11)
<223> all amino acids are D-amino acids

<400> 87

Arg Pro Val Gln Pro Phe Leu Asn Leu Thr Thr
1 5 10

<210> 88
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s22) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(11)
<223> all amino acids are D-amino acids

<400> 88

Ser Arg Pro Val Gln Pro Phe Leu Asn Leu Thr
1 5 10

<210> 89
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s23) (see Table 1)

<220>
 <221> MUTAGEN
 <222> (1)..(11)
 <223> all amino acids are D-amino acids

 <400> 89
 Gln Ser Arg Pro Val Gln Pro Phe Leu Asn Leu
 1 5 10

<210> 90
 <211> 11
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: D-IB1(s24) (see Table 1)

<220>
 <221> MUTAGEN
 <222> (1)..(11)
 <223> all amino acids are D-amino acids

 <400> 90

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu Asn
 1 5 10

<210> 91
 <211> 10
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: D-IB1(s25) (see Table 1)

<220>
 <221> MUTAGEN
 <222> (1)..(10)
 <223> all amino acids are D-amino acids

 <400> 91

Asp Gln Ser Arg Pro Val Gln Pro Phe Leu
 1 5 10

<210> 92
 <211> 10
 <212> PRT
 <213> Artificial

<220>
 <223> Description of sequence: D-IB1(s26) (see Table 1)

<220>
 <221> MUTAGEN
 <222> (1)..(10)
 <223> all amino acids are D-amino acids

 <400> 92

Gln Ser Arg Pro Val Gln Pro Phe Leu Asn
 Seite 31

1 5 10

<210> 93
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s27) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(10)
<223> all amino acids are D-amino acids

<400> 93

Ser Arg Pro Val Gln Pro Phe Leu Asn Leu
1 5 10

<210> 94
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s28) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(10)
<223> all amino acids are D-amino acids

<400> 94

Arg Pro Val Gln Pro Phe Leu Asn Leu Thr
1 5 10

<210> 95
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s29) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(10)
<223> all amino acids are D-amino acids

<400> 95

Pro Val Gln Pro Phe Leu Asn Leu Thr Thr
1 5 10

<210> 96
<211> 10
<212> PRT
<213> Artificial

<220>

<223> Description of sequence: D-IB1(s30) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(10)

<223> all amino acids are D-amino acids

<400> 96

Val Gln Pro Phe Leu Asn Leu Thr Thr Pro
1 5 10

<210> 97

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s31) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(10)

<223> all amino acids are D-amino acids

<400> 97

Gln Pro Phe Leu Asn Leu Thr Thr Pro Arg
1 5 10

<210> 98

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s32) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(10)

<223> all amino acids are D-amino acids

<400> 98

Pro Phe Leu Asn Leu Thr Thr Pro Arg Lys
1 5 10

<210> 99

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Description of sequence: D-IB1(s33) (see Table 1)

<220>

<221> MUTAGEN

<222> (1)..(10)

<223> all amino acids are D-amino acids

<400> 99

Phe Leu Asn Leu Thr Thr Pro Arg Lys Pro
1 5 10

<210> 100
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Description of sequence: D-IB1(s34) (see Table 1)

<220>
<221> MUTAGEN
<222> (1)..(10)
<223> all amino acids are D-amino acids

<400> 100

Leu Asn Leu Thr Thr Pro Arg Lys Pro Arg
1 5 10

<210> 101
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Primer specific for GAPDH (Forward)

<400> 101
atgcccccat gtttgtgatg 20

<210> 102
<211> 2953
<212> DNA
<213> Rattus norvegicus

<400> 102
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cgccgccgcc gccgccgccg ccgcctcccg cgccgctctc cgcccggatg gccaggctga 120
gcccgggaat ggccggagcga gagagcggcc tgagcggggg tgccgcgtcc ccaccggccg 180
cttccccatt cctgggactg cacatcgctg cgcctcccaa tttcaggctc acccatgata 240
tcagcctgga ggagtttgag gatgaagacc tttcggagat cactgatgag tgtggcatca 300
gcctgcagtg caaagacacc ttgtctctcc ggcccccgcg cgccgggcta ctgtctgcgg 360
gtagcagcgg tagcgcgggg agccggctgc aggcggagat gctgcagatg gacctgatcg 420
acgcggcaag tgacactccg ggcgccgagg acgacgaaga ggacgacgac gagctcgctg 480
cccaacggcc aggagtgggg ccttccaaag ccgagtctgg ccaggagccg gcgtctcgca 540
gccaggggtca gggccagggc cccggcacag gctgcggaga cacctaccgg cccaagaggc 600
ctaccacgct caaccttttc ccgcaggtgc cgcggtctca ggacacgctg aataataact 660
ctttaggcaa aaagcacagt tggcaggacc gtgtgtctcg atcatcctcc cctctgaaga 720
cagggggagca gacgcctcca catgaacata tctgcctgag tgatgagctg ccgccccagg 780

gcagtcctgt	tcccacccag	gatcgtggca	cttccaccga	cagcccttgt	cgccgtactg	840
cagccaccca	gatggcacct	ccaagtggtc	cccctgccac	tgcacctggt	ggccggggcc	900
actcccatcg	agatcgggtcc	atatcagcag	atgtgcggct	cgaggcgact	gaggagatct	960
acctgacccc	agtgcagagg	ccccagacc	ctgcagaacc	cacctccacc	ttcttgccac	1020
ccactgagag	ccggatgtct	gtcagctcgg	atcctgacct	tgccgcttac	tctgtaactg	1080
cagggcgacc	gcacccttcc	atcagtgaag	aggatgaggg	cttcgactgt	ctgtcatccc	1140
cagagcaagc	tgagccacca	ggtggagggg	ggcggggaag	cctcggggag	ccaccaccgc	1200
ctccacgggc	ctcactgagc	tcggacacca	gcgcactgtc	ctacgactct	gtcaagtaca	1260
cactgggtgg	ggatgagcat	gcccagcttg	agttgggtgag	cctgcggcca	tgttttggag	1320
attacagtga	cgaaagcgac	tctgccactg	tctatgacaa	ctgtgcctct	gcctcctcgc	1380
cctacgagtc	agccattggt	gaggaatatg	aggaggcccc	tcaaccccg	cctccacct	1440
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aagactattg	gtatgaggcc	tataacatgc	gactggagc	ccgtgggtgtc	tttctgcct	1740
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actggattga	ccagttccgg	gtgaagtcc	tgggctctgt	ccaggttcct	tatcacaagg	1860
gcaatgatgt	cctctgtgct	gctatgcaaa	agatcgccac	cacccgccgg	ctcaccgtgc	1920
actttaaccc	gccctccagc	tgtgtccttg	aaatcagcgt	taggggtgtc	aagataggtg	1980
tcaaagctga	tgaagctcag	gaggccaagg	gaaataaatg	tagccacttt	ttccagctaa	2040
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cctgtcctac	agaagatatt	tacttgaggt	agcagcaacc	cccctctctg	cagccccctca	2280
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gcaacatgtg	acagtgagac	cctgtttctca	tctgtggggc	tccggcagct	ccgaccccca	2760
gcctggccag	cacgctgacc	ctggcaagct	tgtgtgttca	aagaaggaga	gggccacagc	2820
aagccctgcc	tgccagggaa	ggttcctct	cagctggccc	cagccaactg	gtcactgtct	2880

tggtcacctgg ctactactat taaagtgccca tttcttgtct gaaaaaaaaa aaaaaaaaaa 2940
 aaaaaaactc gag 2953

<210> 103
 <211> 714
 <212> PRT
 <213> Rattus norvegicus

<400> 103

Met Ala Arg Leu Ser Pro Gly Met Ala Glu Arg Glu Ser Gly Leu Ser
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Gly Gly Ala Ala Ser Pro Pro Ala Ala Ser Pro Phe Leu Gly Leu His
 20 25 30

Ile Ala Ser Pro Pro Asn Phe Arg Leu Thr His Asp Ile Ser Leu Glu
 35 40 45

Glu Phe Glu Asp Glu Asp Leu Ser Glu Ile Thr Asp Glu Cys Gly Ile
 50 55 60

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

Leu Leu Ser Ala Gly Ser Ser Gly Ser Ala Gly Ser Arg Leu Gln Ala
 85 90 95

Glu Met Leu Gln Met Asp Leu Ile Asp Ala Ala Ser Asp Thr Pro Gly
 100 105 110

Ala Glu Asp Asp Glu Glu Asp Asp Asp Glu Leu Ala Ala Gln Arg Pro
 115 120 125

Gly Val Gly Pro Ser Lys Ala Glu Ser Gly Gln Glu Pro Ala Ser Arg
 130 135 140

Ser Gln Gly Gln Gly Gln Gly Pro Gly Thr Gly Cys Gly Asp Thr Tyr
 145 150 155 160

Arg Pro Lys Arg Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg
 165 170 175

Ser Gln Asp Thr Leu Asn Asn Asn Ser Leu Gly Lys Lys His Ser Trp
 180 185 190

Gln Asp Arg Val Ser Arg Ser Ser Ser Pro Leu Lys Thr Gly Glu Gln
 195 200 205

Thr Pro Pro His Glu His Ile Cys Leu Ser Asp Glu Leu Pro Pro Gln
 210 215 220

Gly Ser Pro Val Pro Thr Gln Asp Arg Gly Thr Ser Thr Asp Ser Pro
225 230 235 240

Cys Arg Arg Thr Ala Ala Thr Gln Met Ala Pro Pro Ser Gly Pro Pro
245 250 255

Ala Thr Ala Pro Gly Gly Arg Gly His Ser His Arg Asp Arg Ser Ile
260 265 270

Ser Ala Asp Val Arg Leu Glu Ala Thr Glu Glu Ile Tyr Leu Thr Pro
275 280 285

Val Gln Arg Pro Pro Asp Pro Ala Glu Pro Thr Ser Thr Phe Leu Pro
290 295 300

Pro Thr Glu Ser Arg Met Ser Val Ser Ser Asp Pro Asp Pro Ala Ala
305 310 315 320

Tyr Ser Val Thr Ala Gly Arg Pro His Pro Ser Ile Ser Glu Glu Asp
325 330 335

Glu Gly Phe Asp Cys Leu Ser Ser Pro Glu Gln Ala Glu Pro Pro Gly
340 345 350

Gly Gly Trp Arg Gly Ser Leu Gly Glu Pro Pro Pro Pro Pro Arg Ala
355 360 365

Ser Leu Ser Ser Asp Thr Ser Ala Leu Ser Tyr Asp Ser Val Lys Tyr
370 375 380

Thr Leu Val Val Asp Glu His Ala Gln Leu Glu Leu Val Ser Leu Arg
385 390 395 400

Pro Cys Phe Gly Asp Tyr Ser Asp Glu Ser Asp Ser Ala Thr Val Tyr
405 410 415

Asp Asn Cys Ala Ser Ala Ser Ser Pro Tyr Glu Ser Ala Ile Gly Glu
420 425 430

Glu Tyr Glu Glu Ala Pro Gln Pro Arg Pro Pro Thr Cys Leu Ser Glu
435 440 445

Asp Ser Thr Pro Asp Glu Pro Asp Val His Phe Ser Lys Lys Phe Leu
450 455 460

Asn Val Phe Met Ser Gly Arg Ser Arg Ser Ser Ser Ala Glu Ser Phe
465 470 475 480

Gly Leu Phe Ser Cys Val Ile Asn Gly Glu Glu His Glu Gln Thr His
485 490 495

Arg Ala Ile Phe Arg Phe Val Pro Arg His Glu Asp Glu Leu Glu Leu
Seite 37

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Glu Val Asp Asp Pro Leu Leu Val	Glu Leu Gln Ala Glu	Asp Tyr Trp
515	520	525
Tyr Glu Ala Tyr Asn Met Arg Thr Gly Ala Arg Gly Val Phe Pro Ala		
530	535	540
Tyr Tyr Ala Ile Glu Val Thr Lys Glu Pro Glu His Met Ala Ala Leu		
545	550	555
Ala Lys Asn Ser Asp Trp Ile Asp Gln Phe Arg Val Lys Phe Leu Gly		
565	570	575
Ser Val Gln Val Pro Tyr His Lys Gly Asn Asp Val Leu Cys Ala Ala		
580	585	590
Met Gln Lys Ile Ala Thr Thr Arg Arg Leu Thr Val His Phe Asn Pro		
595	600	605
Pro Ser Ser Cys Val Leu Glu Ile Ser Val Arg Gly Val Lys Ile Gly		
610	615	620
Val Lys Ala Asp Glu Ala Gln Glu Ala Lys Gly Asn Lys Cys Ser His		
625	630	635
Phe Phe Gln Leu Lys Asn Ile Ser Phe Cys Gly Tyr His Pro Lys Asn		
645	650	655
Asn Lys Tyr Phe Gly Phe Ile Thr Lys His Pro Ala Asp His Arg Phe		
660	665	670
Ala Cys His Val Phe Val Ser Glu Asp Ser Thr Lys Ala Leu Ala Glu		
675	680	685
Ser Val Gly Arg Ala Phe Gln Gln Phe Tyr Lys Gln Phe Val Glu Tyr		
690	695	700
Thr Cys Pro Thr Glu Asp Ile Tyr Leu Glu		
705	710	

<210> 104
 <211> 711
 <212> PRT
 <213> Homo sapiens

<400> 104

Met Ala Glu Arg Glu Ser Gly Gly Leu Gly Gly Gly Ala Ala Ser Pro
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Pro Ala Ala Ser Pro Phe Leu Gly Leu His Ile Ala Ser Pro Pro Asn
20 25 30

Phe Arg Leu Thr His Asp Ile Ser Leu Glu Glu Phe Glu Asp Glu Asp
 35 40 45
 Leu Ser Glu Ile Thr Asp Glu Cys Gly Ile Ser Leu Gln Cys Lys Asp
 50 55 60
 Thr Leu Ser Leu Arg Pro Pro Arg Ala Gly Leu Leu Ser Ala Gly Gly
 65 70 75 80
 Gly Gly Ala Gly Ser Arg Leu Gln Ala Glu Met Leu Gln Met Asp Leu
 85 90 95
 Ile Asp Ala Thr Gly Asp Thr Pro Gly Ala Glu Asp Asp Glu Glu Asp
 100 105 110
 Asp Asp Glu Glu Arg Ala Ala Arg Arg Pro Gly Ala Gly Pro Pro Lys
 115 120 125
 Ala Glu Ser Gly Gln Glu Pro Ala Ser Arg Gly Gln Gly Gln Ser Gln
 130 135 140
 Gly Gln Ser Gln Gly Pro Gly Ser Gly Asp Thr Tyr Arg Pro Lys Arg
 145 150 155 160
 Pro Thr Thr Leu Asn Leu Phe Pro Gln Val Pro Arg Ser Gln Asp Thr
 165 170 175
 Leu Asn Asn Asn Ser Leu Gly Lys Lys His Ser Trp Gln Asp Arg Val
 180 185 190
 Ser Arg Ser Ser Ser Pro Leu Lys Thr Gly Glu Gln Thr Pro Pro His
 195 200 205
 Glu His Ile Cys Leu Ser Asp Glu Leu Pro Pro Gln Ser Gly Pro Ala
 210 215 220
 Pro Thr Thr Asp Arg Gly Thr Ser Thr Asp Ser Pro Cys Arg Arg Ser
 225 230 235 240
 Thr Ala Thr Gln Met Ala Pro Pro Gly Gly Pro Pro Ala Ala Pro Pro
 245 250 255
 Gly Gly Arg Gly His Ser His Arg Asp Arg Ile His Tyr Gln Ala Asp
 260 265 270
 Val Arg Leu Glu Ala Thr Glu Glu Ile Tyr Leu Thr Pro Val Gln Arg
 275 280 285
 Pro Pro Asp Ala Ala Glu Pro Thr Ser Ala Phe Leu Pro Pro Thr Glu
 290 295 300

Ser Arg Met Ser Val Ser Ser Asp Pro Asp Pro Ala Ala Tyr Pro Ser
305 310 315 320

Thr Ala Gly Arg Pro His Pro Ser Ile Ser Glu Glu Glu Glu Gly Phe
325 330 335

Asp Cys Leu Ser Ser Pro Glu Arg Ala Glu Pro Pro Gly Gly Gly Trp
340 345 350

Arg Gly Ser Leu Gly Glu Pro Pro Pro Pro Arg Ala Ser Leu Ser
355 360 365

Ser Asp Thr Ser Ala Leu Ser Tyr Asp Ser Val Lys Tyr Thr Leu Val
370 375 380

Val Asp Glu His Ala Gln Leu Glu Leu Val Ser Leu Arg Pro Cys Phe
385 390 395 400

Gly Asp Tyr Ser Asp Glu Ser Asp Ser Ala Thr Val Tyr Asp Asn Cys
405 410 415

Ala Ser Val Ser Ser Pro Tyr Glu Ser Ala Ile Gly Glu Glu Tyr Glu
420 425 430

Glu Ala Pro Arg Pro Gln Pro Pro Ala Cys Leu Ser Glu Asp Ser Thr
435 440 445

Pro Asp Glu Pro Asp Val His Phe Ser Lys Lys Phe Leu Asn Val Phe
450 455 460

Met Ser Gly Arg Ser Arg Ser Ser Ser Ala Glu Ser Phe Gly Leu Phe
465 470 475 480

Ser Cys Ile Ile Asn Gly Glu Glu Gln Glu Gln Thr His Arg Ala Ile
485 490 495

Phe Arg Phe Val Pro Arg His Glu Asp Glu Leu Glu Leu Glu Val Asp
500 505 510

Asp Pro Leu Leu Val Glu Leu Gln Ala Glu Asp Tyr Trp Tyr Glu Ala
515 520 525

Tyr Asn Met Arg Thr Gly Ala Arg Gly Val Phe Pro Ala Tyr Tyr Ala
530 535 540

Ile Glu Val Thr Lys Glu Pro Glu His Met Ala Ala Leu Ala Lys Asn
545 550 555 560

Ser Asp Trp Val Asp Gln Phe Arg Val Lys Phe Leu Gly Ser Val Gln
565 570 575

Val Pro Tyr His Lys Gly Asn Asp Val Leu Cys Ala Ala Met Gln Lys
seite 40

580	585	590
Ile Ala Thr Thr Arg Arg Leu Thr Val His Phe Asn Pro Pro Ser Ser		
595	600	605
Cys Val Leu Glu Ile Ser Val Arg Gly Val Lys Ile Gly Val Lys Ala		
610	615	620
Asp Asp Ser Gln Glu Ala Lys Gly Asn Lys Cys Ser His Phe Phe Gln		
625	630	635
Leu Lys Asn Ile Ser Phe Cys Gly Tyr His Pro Lys Asn Asn Lys Tyr		
645	650	655
Phe Gly Phe Ile Thr Lys His Pro Ala Asp His Arg Phe Ala Cys His		
660	665	670
Val Phe Val Ser Glu Asp Ser Thr Lys Ala Leu Ala Glu Ser Val Gly		
675	680	685
Arg Ala Phe Gln Gln Phe Tyr Lys Gln Phe Val Glu Tyr Thr Cys Pro		
690	695	700
Thr Glu Asp Ile Tyr Leu Glu		
705	710	

<210> 105
 <211> 2136
 <212> DNA
 <213> Homo sapiens

<400> 105	
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ctggaggagt ttgaggatga agacctctcg gagatcactg atgagtgtgg catcagctta	180
cagtgcaaag acaccctgtc cttacggccc ccgcgcgccg ggctgctctc tgcggggcggc	240
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cggccgggag cggggccgcc caaggccgag tccggccagg agccggcgtc ccgcggccag	420
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cccaccacgc tcaacctctt tccgcagggt ccgcgggtctc aggacacact gaataataat	540
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agcggccccg cccccaccac agatcgaggc acctccaccg acagcccttg ccgccgcagc	720
acagccaccc agatggcacc tccgggtggt ccccctgctg ccccgccctg gggtcggggc	780
cactcgcata gagaccgaat ccactaccag gccgatgtgc gactagaggc cactgaggag	840

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acggcagggc ggccgcaccc ctccatcagt gaagaggaag agggcttcga ctgcctgtcg	1020
tccccagagc gggctgagcc cccaggcgga gggtagggg ggagcctggg ggagccgccg	1080
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