

SEQUENCE LISTING

<110> TAISHO PHARMACEUTICAL CO., LTD.

<120> POLYPEPTIDE HAVING MMP2-INHIBITORY EFFECT

<130> FA0061-20155

<150> JP 2019-203338

<151> 2019-11-08

<160> 47

<170> PatentIn version 3.5

<210> 1

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-1]: Compound No. 1-39

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> gamma-(d)-Glu, beta-Asp, beta-(d)-Asp, or gamma-Glu

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> (2S,4S)-(4-amino)Pro

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Leu, Val, Ile, Phe or Trp

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> (N-Me)Glu, (N-Me)Ile, (N-Me)Val, (N-Me)Leu, (N-Me)Phe, (N-Me)Tyr, (N-Me)Ser, Pro, (N-Me)Asp or single bond

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Ape, beta-homoPro, Pro, (d)-Pro, beta-Ala, GABA, Acp, Lys,

(d)-Lys, Arg, (d)-Arg or single bond

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> single bond, Pro, Lys, (d)-Lys, Arg, (d)-Arg (d)-Lys-(d)-Lys

<400> 1

Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 2

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-2]: Compound No. 40

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> gamma-(d)-Glu

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> (2S,4S)-(4-amino)Pro

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> (N-Me)Glu

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Ape

<220>

<221> MISC_FEATURE

<222> (6)..(6)
<223> single bond

<400> 2

Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 3
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-3]: Compound No. 41

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> gamma-(d)-Glu

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> (2S,4S)-(4-amino)Pro

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> single bond

<400> 3

Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 4
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-4]: Compound No. 42

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> gamma-(d)-Glu

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> (2S,4S)-(4-amino)Pro

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> single bond

<400> 4

Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 5
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-5]: Compound No. 43

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> gamma-(d)-Glu

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> (2S,4S)-(4-amino)Pro

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> single bond

<400> 5

Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 6
<211> 6
<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-6]: Compound No. 44

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> gamma-(d)-Glu

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> (2S,4S)-(4-amino)Pro

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> (N-Me)Glu

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Ape

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> single bond

<400> 6

Xaa Xaa Xaa Xaa Xaa Xaa

1

5

<210> 7

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-7]: Compound No. 45-55

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> beta-(d)-Asp, gamma-(d)-Glu or gamma-Glu

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> (2S,4S)-(4-amino)Pro, (S)-piperazine, (2S,4R)-(4-amino)Pro,
(2S,4S)-(4-hydroxy)Pro or (2S,4R)-(4-hydroxy)Pro

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> (N-Me)Ile or (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Ape or beta-homoPro

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> single bond

<400> 7

Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 8
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-8]: Compound No. 56-91

<220>

<221> MISC_FEATURE
 <222> (1)..(1)
 <223> GABA, (N-Me)GABA or Ape

 <220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> Asn, (N-Me)Asn, Glu, Gln, (d)-Ser, homoSer, (d)-Thr or Arg

 <220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> Asp

 <220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> Ala, Dap, Dab or Orn

 <220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> Leu or Dab

 <220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> Met, (N-Me)Val, (N-Me)Ile, Glu, (N-Me)Glu or homoGlu

 <220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> beta-homoPro or Pro

 <220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> single bond, (d)-Lys or (d)-Arg

 <220>
 <221> MISC_FEATURE
 <222> (9)..(9)
 <223> -NH2 or -OH

 <400> 8

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5

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

<220>
<223> peptide chain of [I'-9]: Compound No. 92-156

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> GABA or (N-Me)GABA

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> (N-Me)Ala, (N-Me)Asn, Asn, (d)-Asn, (N-Me)Gly, Aze(2), Pro, homoPro, (N-Me)Val, (N-Me)Leu, (N-Me)Ile, (N-Me)Met, (d)-Lys, (N-Me)Phe, (N-Me)Asp, (N-Me)Glu, (N-Me)Lys, Gln, (N-Me)Tyr, (N-Me)Trp, (N-Me)Thr, Val, Glu or Orn

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala, Dab, Dap or Dap(Me)

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Ile, (N-Me)Glu or (N-Me)Asp

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Aib, Pro or beta-homoPro

<220>

<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 9

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 10
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-10]: Compound No. 157-160

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> gamma-Glu or (d)-Lys

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Adox or (d)-Lys

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Adox or (d)-Lys

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Lys

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> beta-homoPro

<400> 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 11
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-9]: Compound No. 161-176

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> GABA, Ape or Adox

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn, Gln, (d)-Ser, Glu or (d)-Thr

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu or (N-Me)Ile

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond, (d)-Lys or (d)-Arg

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2 or -OH (only compound No. 161)

<400> 11

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 12
<211> 9

<212> PRT
 <213> Artificial Sequence

<220>
 <223> peptide chain of [I'-9]: Compound No. 177-201

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> GABA, Ape or Acp

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> Asn, Lys, Arg or Glu

<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> Asp

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> Ala or Dab

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> Leu

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> Met, (N-Me)Glu or (N-Me)Ile

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> Pro or beta-homoPro

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> single bond

<220>
 <221> MISC_FEATURE

<222> (9)..(9)
<223> -NH2

<400> 12

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 13
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-11]: Compound No. 202

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> GABA

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Met

<220>

<221> MISC_FEATURE
<222> (7)..(7)
<223> Pro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 13

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 14
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-12]: Compound No. 203-205

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Acp

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn, Gln or Ala

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 14

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 15
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-13]: Compound No. 206-209

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Acp or Ape

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn, Gln or Ala

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 16
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-14]: Compound No. 210-315

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> GABA, beta-Ala, Ape, epsilon-Lys, epsilon-(d)-Lys, Acp, Adox,
gamma-Dab, delta-(d)-Orn, gamma-(d)-Dab, beta-Dap, beta-(d)-Dap
or -NH-(CH2)2-O-CH2-CO-

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn, Val, Glu, Orn, (N-Me)Asn, Gln, (d)-Asn, (d)-Gln, (d)-Ser,
(d)-Ala, Phe, (d)-Phe, Tyr, (d)-Tyr, beta-Dap, beta-(d)-Dap,
beta-Ala, Dab, Dap, (d)-Dab, Aze(2), (N-Me)Glu, (N-Me)Ile or
(N-Me)Lys

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dab, Dap, Dap(Me), Dab(Me) or Dab(Me)2

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu, (N-Me)Ile, (N-Me)Asp or (N-Me)Asn

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE

<222> (9)..(9)
<223> NH₂, OH, NH₂Et, piperidin-1-yl, NHMe, azetidin-1-yl,
pyrrolidin-1-yl, (4-OH)piperidin-1-yl, NH-(CH₂)₂-OH or
(3-OH)azetidin-1-yl

<400> 16

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 17
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-15]: Compound No. 316-317

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn or (d)-Ser

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Ile

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 17

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

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

<220>
<223> peptide chain of [I'-14]: Compound No. 318-586

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Ape, -NH-(CH2)2-O-CH2-CO-, Adox, GABA, Acp, delta-Orn,
epsilon-(d)-Lys or epsilon-Lys

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> (N-Me)Glu, Thr, (d)-Thr, (d)-Pro, Trp, (N-Me)Leu, (N-Me)Met,
(d)-Trp, His, (d)-His, Cys, (d)-Cys, Arg, (d)-Arg, (d)-Glu,
(d)-Ser, Lys(Ac), Cit, (d)-Cit, beta-Asp, beta-(d)-Asp, Lys, Met,
single bond, (N-Me)Gln, Asn, (N-Me)Arg, (d)-Lys, Gln, Glu, Ala,

<220>
<221> MISC_FEATURE
<222> (2)..(2)

<223> Dap, Dab or Gly

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Asp, aspartimide or beta-Asp

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Dab, Dap or Aze(2)

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Leu, Phe or Ile

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> (N-Me)Ile, (N-Me)Glu, Dap, Dab, Orn, (N-Me)Arg, (N-Me)Lys, single bond, (N-Me)Val, (N-Me)Ala or (N-Me)Leu

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> beta-homoPro, single bond, Pro, Arg, Lys, beta-Ala, GABA, Ape, His, (d)-Arg, (d)-Lys, Dap, Dab, Orn, homoPro, (2S,4R)-(4-amino)Pro, beta-Dap, beta-(d)-Dap, gamma-Dab, delta-Orn, delta-(d)-Orn, epsilon-Lys, epsilon-(d)-Lys, Aze(2),

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> (d)-Aze(2), (N-Me)beta-Ala, Acp or gamma-(d)-Dab

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> single bond, (d)-Lys-(d)-Lys-(d)-Lys, (d)-Lys, (d)-Arg, Lys, Arg, Arg-Arg, (d)-Arg-(d)-Arg, Lys-Lys, (d)-Lys-(d)-Lys, beta-Ala or GABA

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> -NH₂, -OH, -NH-(CH₂)₂-NH₂, -NH-(CH₂)₄-NH₂ or -NH-(CH₂)₅-NH₂

<400> 18

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 19

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-16]: Compound No. 587-589

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> beta-Ala or GABA

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> Asn

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Asp

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Ala

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> (N-Me)Met or (N-Me)Val

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> Pro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 19

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 20
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-17]: Compound No. 590

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala

<220>
<221> MISC_FEATURE
<222> (5)..(5)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> Met

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> Pro

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> -NH2

<400> 20

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 21

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-18]: Compound No. 591

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> GABA

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> Asn

<220>

<221> MISC_FEATURE

<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Met

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Pro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 21

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 22
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-19]: Compound No. 592

<220>

<221> MISC_FEATURE
<222> (1)..(1)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Met

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Pro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 22

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 23
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-20]: Compound No. 593

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> beta-(d)-Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 23

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 24
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-21]: Compound No. 594-595

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> beta-(d)-Asp or gamma-(d)-Glu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala or (2S,4S)-(4-amino)Pro

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)

<223> (N-Me)Ile or (N-Me)Glu

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> beta-homoPro or Ape

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> -NH2

<400> 24

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 25

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-22]: Compound No. 596

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> GABA

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> Asn

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Asp

<220>

<221> MISC_FEATURE

<222> (4)..(4)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Ile

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Pro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 25

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 26
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-23]: Compound No. 597

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> GABA

<220>

<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Met

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Pro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 26

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 27
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-24]: Compound No. 598

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> GABA

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Asn

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Ala

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Met

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Pro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 27

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 28

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-25]: Compound No. 599

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> GABA

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> Asn

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Asp

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Ala

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> Met

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> Pro

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> -NH2

<400> 28

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 29

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-26]: Compound No. 600-601

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> GABA

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> Asn

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Asp

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Dab

<220>

<221> MISC_FEATURE

<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Ile or (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 29

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 30
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-27]: Compound No. 602-605

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond

<220>

<221> MISC_FEATURE
<222> (3)..(3)
<223> beta-(d)-Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dap or Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu or (N-Me)Ile

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

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

<220>
<223> peptide chain of [I'-28]: Compound No. 606

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> gamma-(d)-Glu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> (2S,4S)-(4-amino)Pro

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -OH

<400> 31

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 32
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-29]: Compound No. 607

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> gamma-(d)-Glu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> (2S,4S)-(4-amino)Pro

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (8)..(8)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> -OH

<400> 32

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 33

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-30]: Compound No. 608

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> gamma-(d)-Glu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Dab

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (6)..(6)
<223> (N-Me)Ile

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 33

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 34
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-31]: Compound No. 609

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> gamma-(d)-Glu

<220>

<221> MISC_FEATURE
<222> (4)..(4)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 34

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 35
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-32]: Compound No. 610-633

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> single bond

 <220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> beta-(d)-Asp or gamma-(d)-Glu

 <220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> Ala, Dap, Dab, Orn or (2S,4S)-(4-amino)Pro

 <220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> Ala(2-Pyr) or Leu

 <220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> Met, (N-Me)Ile or (N-Me)Glu

 <220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> Pro, beta-homoPro, Ape or single bond

 <220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> single bond

 <220>
 <221> MISC_FEATURE
 <222> (9)..(9)
 <223> -NH2

<400> 35

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5

<210> 36
 <211> 9
 <212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-32]: Compound No. 634-642

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> beta-(d)-Asp

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Ala, Dap or Dab

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> (N-Me)Glu or (N-Me)Ile

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> beta-homoPro

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> -NH2

<400> 36

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 37

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-33]: Compound No. 643

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> gamma-(d)-Glu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> (2S,4S)-(4-amino)Pro

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Leu

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> (N-Me)Glu

<220>

<221> MISC_FEATURE

<222> (7)..(7)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -OH

<400> 37

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 38
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-34]: Compound No. 644-690

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond or Ape

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond or Glu

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> beta-(d)-Asp, beta-Asp, gamma-Glu, gamma-(d)-Glu or Asp

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dap, Dab or (2S,4S)-(4-amino)Pro

<220>

<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu, (N-Me)Ile or (N-Me)Val

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro or Ape

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2 or -OH

<400> 38

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 39
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-34]: Compound No. 691-704

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> beta-(d)-Asp or gamma-(d)-Glu

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dap or Dab

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Glu or (N-Me)Ile

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> -NH2

<400> 39

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 40
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'-35]: Compound No. 705-791

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> single bond

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> single bond

<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> beta-(d)-Asp, gamma-(d)-Glu, or gamma-Glu

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> Dap, Dab, Ala, (S)-piperazine, or (2S,4S)-(4-amino)Pro

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> Leu or Nle

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> (N-Me)Glu, (N-Me)Ile, Lys(CO-(CH₂)₁₀-CO₂H), Lys(CO-(CH₂)₁₂-CO₂H), Lys(CO-(CH₂)₁₄-CO₂H), homoSer, (N-Me)Val, (N-Me)Leu, or (N-Me)Asp

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> beta-homoPro, single bond, Ala, Thr, Phe, Lys, beta-Ala, GABA, Ape, Acp, beta-Dap, beta-(d)-Dap, gamma-Dab, gamma-(d)-Dab, delta-Orn, epsilon-Lys, epsilon-(d)-Lys, (4)Abz, Pro, or delta-(d)-Orn

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> single bond, (d)-Lys, (d)-Arg, (d)-Arg-(d)-Lys, (d)-Arg-(d)-Arg, (d)-Lys-(d)-Arg or (d)-Lys-(d)-Lys

<220>
 <221> MISC_FEATURE
 <222> (9)..(9)

<223> NH₂, NH-(CH₂)₂-NH₂, NH-(CH₂)₃-NH₂, NH-(CH₂)₄-NH₂, NH-(CH₂)₅-NH₂,
(4-Me)piperazin-1-yl, morpholin-4-yl, [VI-8], [VI-16], [VI-18] or
OH

<400> 40

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 41

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-36]: Compound No. 792-890

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> single bond

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> beta-(d)-Asp, gamma-(d)-Glu or gamma-Glu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> Dap, Dab, (S)-piperazine, Pro or (2S,4S)-(4-amino)Pro

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Leu, Ala(cPropyl), Ala(4-Thz), Ile, Val or Tyr

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> (N-Me)Glu, (N-Me)Ile, (N-Me)Val, (N-Me)Leu, single bond,
(N-Me)Ser, (N-Me)Tyr, (N-Me)Phe, (N-Me)Ala, (N-Me)Asp, (N-Me)Lys,

Gly, (d)-Arg, (d)-Pro, (d)-Ser, (d)-Tyr, (d)-Phe, (d)-Ala,
(d)-Thr, (N-Me)Arg, (d)-(N-Me)Glu or Glu

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> beta-homoPro, Ape, Acp, gamma-Dab, beta-(d)-Dap, delta-Orn,
delta-(d)-Orn, epsilon-Lys, epsilon-(d)-Lys, Pro, beta-Ala, GABA,
beta-Dap, Aze(2), (d)-Aze(2), Aze(3), cis-NH(3)cPen, single bond
or (d)-Lys

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> single bond, (d)-Lys, (d)-Arg, (d)-Arg-(d)-Lys, (d)-Arg-(d)-Arg,
(d)-Lys-(d)-Lys, (d)-Lys-(d)-Arg, Gly-(d)-Lys, Gly-(d)-Arg,
Gly-(d)-Arg-(d)-Arg, Gly-(d)-Lys-(d)-Arg, beta-Ala-(d)-Lys,
beta-Ala-(d)-Arg-(d)-Lys, beta-Ala-(d)-Arg-(d)-Arg,

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> beta-Ala-(d)-Lys-(d)-Arg, Gly-(d)-Arg-(d)-Lys,
Gly-(d)-Lys-(d)-Lys or Ape

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> NH2, [VI-14] or OH

<400> 41

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 42

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I'-37]: Compound No. 891-899

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> GABA

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> crosslinked to Lys at position No. 5 through Gly, GABA or
 beta-Ala

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> Ala or Dab

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> (N-Me)Ile or (N-Me)Asp

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> beta-homoPro or single bond

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> -OH or -NH2

<400> 42

Xaa Glu Asp Xaa Lys Xaa Xaa Xaa
 1 5

<210> 43
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> peptide chain of [I'-38]: Compound No. 900-911

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> gamma-Glu, Lys or (d)-Lys

<220>
 <221> MISC_FEATURE

<222> (2)..(2)
<223> Adox, Lys or (d)-Lys

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Adox, Lys or (d)-Lys

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Lys or (d)-Lys

<220>
<221> MOD_RES
<222> (4)..(4)
<223> GABA

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Asp

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Ala or Dab

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> (N-Me)Ile or (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> beta-homoPro

<400> 43

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 44
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> peptide chain of [I'-39]: Compound No. 912-955

<220>
 <221> MISC_FEATURE
 <222> (1)..(1)
 <223> (d)-Lys, gamma-Glu, Lys, Arg, (d)-Arg, Adox or single bond

<220>
 <221> MISC_FEATURE
 <222> (2)..(2)
 <223> (d)-Lys, Adox, single bond, Lys, Arg or (d)-Arg

<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> (d)-Lys, Adox, single bond, Lys, Arg, (d)-Arg or gamma-Glu

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> Single bond or (d)-Lys

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> Single bond or (d)-Lys

<220>
 <221> MOD_RES
 <222> (6)..(6)
 <223> GABA or Ape

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> Asp

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> Dab

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Leu

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> (N-Me)Ile, (N-Me)Asp or (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> beta-homoPro

<400> 44

Xaa Xaa Xaa Xaa Xaa Lys Xaa Xaa Xaa Xaa Xaa
1 5 10

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

<220>
<223> peptide chain of [I'-40]: Compound No. 956-972

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Ape

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Dab

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> (N-Me)Ile or (N-Me)Glu

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> beta-homoPro

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> (d)-Lys or single bond

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> (d)-Lys or single bond

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Lys or (d)-Lys

<220>
<221> MOD_RES
<222> (10)..(10)
<223> (d)-Lys or single bond

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> (d)-Lys or single bond

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> (d)-Lys or single bond

<400> 45

Xaa Glu Asp Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 46
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide chain of [I'] recited in claim 1

<220>
<221> MISC_FEATURE
<222> (1)..(1)

<223> L(N1):-C(=O)- or -S(=O)2-

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> W(1):L1 or L1'-L1''; L1 is single bond, and L1' is Single bond, beta-Ala, GABA, (N-Me)GABA, Ape, Acp, [III-6], [III-7], [III-8], [III-9], [III-10], [III-11], [III-12], [III-13], [IV-23] or [IV-24]

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> W(1):L1 or L1'-L1''; L1'' is single bond, Gly, (N-Me)Gly, Ala, (N-Me)Ala, (d)-Ala, Val, (N-Me)Val, (N-Me)Leu, (N-Me)Ile, [IV-27], Pro, (d)-Pro, homoPro, Phe, (N-Me)Phe, (d)-Phe, His, (d)-His, Trp, (N-Me)Trp, (d)-Trp, Tyr, (N-Me)Tyr, (d)-Tyr,

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> W(1):L1 or L1'-L1''; L1'' is Thr, (N-Me)Thr, (d)-Thr, Cys, (d)-Cys, Met, (N-Me)Met, (N-Me)Asp, Glu, (N-Me)Glu, (d)-Glu, Asn, (N-Me)Asn, (d)-Asn, Gln, (N-Me)Gln, (d)-Gln, Arg, (N-Me)Arg, (d)-Arg, Cit, (d)-Cit, [IV-7], [IV-9], [IV-10], [IV-13], Lys,

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> W(1):L1 or L1'-L1''; L1'' is (N-Me)Lys, (d)-Lys, [IV-14], beta-Ala, beta-Asp, beta-(d)-Asp, [III-6], [III-7], (d)-Ser, or homoSer

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> AA1: Asp, beta-Asp, beta-(d)-Asp, gamma-Glu or gamma-(d)-Glu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> L2: single bond

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> AA2: Ala, [IV-7], [IV-8], [IV-9], [IV-11], [IV-12], [IV-13], [IV-27], Pro, [II-1] or [II-2]

<220>
 <221> MISC_FEATURE
 <222> (6)..(6)
 <223> AA3: Val, Leu, Ile, [IV-2], Phe, Trp, Tyr, Lys, [IV-3], [IV-4],
 [IV-5] or [IV-9]

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> AA4: Single bond, Gly, (d)-Ala, (N-Me)Ala, (N-Me)Val, (N-Me)Leu,
 (N-Me)Ile, Pro, (d)-Pro, (N-Me)Phe, (d)-Phe, (N-Me)Tyr, (d)-Tyr,
 (N-Me)Ser, (d)-Ser, homoSer, (d)-Thr, Met, (N-Me)Met, (N-Me)Asp,
 Glu, (N-Me)Glu, (d)-(N-Me)Glu, homoGlu, (N-Me)Asn,

<220>
 <221> MISC_FEATURE
 <222> (7)..(7)
 <223> AA4: ... (N-Me)Arg, (d)-Arg, [IV-7], [IV-9], [IV-13], Lys or
 (N-Me)Lys

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> AA5: Single bond, Ala, [IV-1], [IV-27], [IV-28], [IV-29], Pro,
 (d)-Pro, beta-homoPro, homoPro, [II-1'], Phe, His, Thr, Arg,
 (d)-Arg, [IV-7], [IV-9], [IV-13], Lys, (d)-Lys, beta-Ala,
 (N-Me)-beta-Ala, GABA, Ape, Acp, [III-6], [III-7], [III-8],

<220>
 <221> MISC_FEATURE
 <222> (8)..(8)
 <223> AA5: ...[III-9], [III-10], [III-11], [III-12], [III-13], [IV-25]
 or[IV-26]

<220>
 <221> MISC_FEATURE
 <222> (9)..(9)
 <223> Wc: single bond or linker consisting of 1 to 3 amino acids,
 wherein the 1 to 3 amino acids can be the same or different,
 and are selected from the group consisting of Gly, Pro,
 Arg, (d) -Arg, Lys, (d) -Lys, beta-Ala, GABA, and Ape

<220>
 <221> MISC_FEATURE
 <222> (10)..(10)
 <223> Rc: -OH, -NH2, C1-6 alkylamino, or a 4-7 membered saturated
 heterocyclyl containing one nitrogen and optionally one
 heteroatom.

<400> 46

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 47

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> peptide chain of [I] recited in claim 8

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> L(N1):-C(=O)- or -S(=O)2-

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> L1: single bond

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> AA1: beta-Asp, gamma-Glu or gamma-(d)-Glu

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> L2: single bond

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> AA2: [II-1] or [II-2]

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> AA3: Val, Leu, Ile, Phe or Trp

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> AA4: Single bond, Pro, (N-Me)Ala, (N-Me)Val, (N-Me)Leu,
(N-Me)Ile, (N-Me)Phe, (N-Me)Tyr, (N-Me)Ser, (N-Me)Asp or
(N-Me)Glu

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> AA5: Single bond, Pro, (d)-Pro, beta-homoPro, Arg, (d)-Arg, Lys,
(d)-Lys, beta-Ala, GABA, Ape or Acp

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> Lc: single bond, Pro, Arg, (d) -Arg, Lys, (d) -Lys or (d)
-Lys-(d) -Lys

<220>

<221> MISC_FEATURE

<222> (10)..(10)

<223> Rc: -OH or -NH2

<400> 47

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10