SEQUENCE LISTING

<110> Amylin Pharmaceuticals, Inc.
Fineman, Mark
MacConell, Leigh
Taylor, Kristin

<120> METHODS FOR TREATING DIABETES AND REDUCING BODY WEIGHT

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<151> 2005-08-19

<150> 60/779,216
<151> 2006-03-03

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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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Ser Gly Ala Pro Pro Pro Ser
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Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg
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20 25 30

Pro Arg Pro Pro Ser Ser
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Leu Ala Leu Gln Lys Tyr Leu Glu Ser Ile Leu Gly Ser Ser Thr Ser
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Pro Arg Pro Pro Ser
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Pro Pro Pro
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Ser Gly Ala Xaa Xaa Xaa Ser
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<223> Ala, Leu or Lys-NH-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkylalkanoyl

<220>
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<223> Phe, Tyr or naphthylalanine

<220>
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<222> (23)..(23)
<223> Ile, Val, Leu, pentylglycine, tert-butylglycine or Met

<220>
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<222> (24)..(24)
<223> Ala, Glu or Asp

<220>
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<223> Ala, Trp, Phe, Tyr or naphthylalanine

<220>
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<222> (26)..(26)
<223> Ala or Leu

<220>
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<222> (27)..(27)
<223> Lys, Asn, Ala or Lys-NH-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkylalkanoyl

<220>
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<223> Lys, Asn, Ala or Lys-NH-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkylalkanoyl and is optionally amidated

<220>
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<222> (29)..(30)
<223> Gly or absent and if present optionally amidated

<220>
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<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine, N-alkylalanine or absent and if present is optionally amidated

<220>
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<223> Ser or absent and if present optionally amidated

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<223> Gly or absent and if present optionally amidated

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<222> (35)..(35)
<223> Ala or absent and if present optionally amidated

<220>
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<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine, N-alkylalanine or absent and if present is optionally amidated

<400> 19

Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

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<223> Ser, Gly, Ala or Thr

<220>
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<223> Ala, Asp or Glu

<220>
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<223> Ala, Norval, Val, Norleu or Gly

<220>
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<222> (5)..(5)
<223> Ala or Thr

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<223> Ala, Phe, Tyr or naphthylalanine

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<223> Thr or Ser

<220>
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<223> Ala, Ser or Thr

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<223> Ala, Norval, Val, Norleu, Asp or Glu

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<223> Ala, Leu, Ile, Val, pentylglycine or Met

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<223> Ala or Ser

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<222> (12)..(12)
<223> Ala or Lys

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<223> Ala or Gln

<220>
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<222> (14)..(14)
<223> Ala, Leu, Ile, pentylglycine, Val or Met

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<223> Ala or Glu

<220>
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<223> Ala or Val

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<222> (20)..(20)
<223> Ala or Arg

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<223> Phe, Tyr or naphthylalanine

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<223> Ile, Val, Leu, pentylglycine, tert-butylglycine or Met

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<223> Ala, Glu or Asp

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<222> (26)..(26)
<223> Ala or Leu

<220>
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<222> (27)..(27)
<223> Lys, Asn, Lys-NH-R or Ala where R is Lys, Arg, C1-10 straight chain or branched alkanoyl or cycloalkylalkanoyl

<220>
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<223> Lys, Asn, Lys-NH-R or Ala where R is Lys, Arg, C1-10 straight chain or branched alkanoyl or cycloalkylalkanoyl and is optionally amidated

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<223> Gly or absent and if present optionally amidated

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<223> Pro, homoproline, 3Hyp, 4Hyp, thiproline, N-alkylglycine, N-alkylpentylglycine, N-alkylalanine or absent and if present optionally amidated

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<222> (32)..(33)
<223> Ser or absent and if present optionally amidated

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<222> (34)..(34)
<223> Gly or absent and if present optionally amidated

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<222> (35)..(35)
<223> Ala or absent and if present optionally amidated

<220>
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<223> Pro, homoproline, 3Hyp, 4Hyp, thiproline, N-alkylglycine, N-alkylpentylglycine, N-alkylalanine or absent and if present optionally amidated

<221> MISC_FEATURE
<222> (39)..(39)
<223> Ser, Tyr or absent and if present optionally amidated

<400> 20

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa
35

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<223> His, Arg or Tyr

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<223> Ser, Gly, Ala or Thr

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<223> Asp or Glu

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<223> Phe, Tyr or naphthylalanine

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<222> (7)..(7)
<223> Thr or Ser

<220>
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<222> (8)..(8)
<223> Ser or Thr

<220>
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<222> (9)..(9)
<223> Asp or Glu

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Leu, Ile, Val, pentylglycine or Met

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> Leu, Ile, pentylglycine, Val or Met

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> Phe, Tyr or naphthylalanine

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<222> (23)..(23)
<223> Ile, Val, Leu, pentylglycine, tert-butylglycine or Met

<220>
<221> MISC_FEATURE
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<223> Glu or Asp

<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> Trp, Phe, Tyr or naphthylalanine

<220>
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<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine or N-alkylalanine

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<220>
<221> MISC_FEATURE
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<223> Ser, Thr or Tyr and optionally amidated

<400> 21

Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa
35

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<212> PRT
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<223> Ser, Gly, Ala or Thr

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<222> (10)..(10)
<223> Leu, Ile, Val, pentylglycine or Met

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<222> (14)..(14)
<223> Leu, Ile, pentylglycine, Val or Met

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<223> Phe, Tyr or naphthylalanine

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<222> (23)..(23)
<223> Ile, Val, Leu, pentylglycine, tert-butylglycine or Met

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> Glu or Asp

<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> Trp, Phe, Tyr, or naphthylalanine

<220>
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<223> Lys, Asn or Lys-NH-R where R is Lys, Arg, C1-C10 straight chain or branched alkanoyl or cycloalkylalkanoyl

<220>
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<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine or N-alkylalanine

<220>
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<222> (36)..(38)
<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine or N-alkylalanine

<220>
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<222> (39)..(39)
<223> Ser, Thr or Tyr and is optionally amidated

<400> 22

Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Xaa Xaa Xaa Leu Xaa Xaa Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Xaa
35

<210> 23
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

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<222> (30)...(30)
<223> AMIDATION

<400> 23

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25 30

<210> 24
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 24

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 25
<211> 28
<212> PRT
<213> Artificial Sequence

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<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 25

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 26
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<213> Artificial Sequence

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<220>
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<222> (28)...(28)
<223> AMIDATION

<400> 26

His Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 27
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 27

His Gly Glu Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

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

<220>
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<220>
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<222> (28)...(28)
<223> AMIDATION

<400> 28

His Gly Glu Gly Thr Ala Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 29
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 29

His Gly Glu Gly Thr Phe Thr Ala Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

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

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 30

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 31
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
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<222> (28)...(28)
<223> AMIDATION

<400> 31

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 32
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (28)...(28)
<223> AMIDATION

<400> 32

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 33
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 33

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 34
<211> 28
<212> PRT
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<222> (28)...(28)
<223> AMIDATION

<400> 34

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  1               5                  10                  15

 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20                  25


<210> 35
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<220>
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<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 35

 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Ala Glu
  1               5                  10                  15

 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20                  25


<210> 36
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 36

 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Ala
  1               5                  10                  15

 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20                  25


<210> 37
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 37

 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
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1 5 10 15

Ala Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 38
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> artificially synthesized sequence of novel exendin agonist compound

<220>
<221> AMIDATION
<222> (28)...(28)
<223> amidated Asn (Asparaginamide)

<400> 38

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Ala Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 39
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 39

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Ala Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 40
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 40

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Ala Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 41
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 41

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Ala Phe Leu Lys Asn
20 25

<210> 42
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 42

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
20 25

<210> 43
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD-RES
<222> (28)...(28)
<223> AMIDATION

<400> 43

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Ala Lys Asn

20 25

<210> 44
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 44

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Ala Asn
20 25

<210> 45
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (28)...(28)
<223> AMIDATION

<400> 45

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Ala
20 25

<210> 46
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (38)...(38)
<223> AMIDATION

<400> 46

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro
35

<210> 47
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (38)...(38)
<223> AMIDATION

<400> 47

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro
35

<210> 48
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (37)...(37)
<223> AMIDATION

<400> 48

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro
35

<210> 49
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (37)...(37)
<223> AMIDATION

<400> 49

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  1               5                  10                  15

 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20                  25                  30

 Ser Gly Ala Pro Pro
         35


<210> 50
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (36)...(36)
<223> AMIDATION

<400> 50

 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
  1               5                  10                  15

 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20                  25                  30

 Ser Gly Ala Pro
         35


<210> 51
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (36)...(36)
<223> AMIDATION

<400> 51

 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
  1               5                  10                  15

 Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20                  25                  30

 Ser Gly Ala Pro
         35


<210> 52
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog
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<220>
<221> MOD_RES
<222> (35)...(35)
<223> AMIDATION

<400> 52

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala
35

<210> 53
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (35)...(35)
<223> AMIDATION

<400> 53

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala
35

<210> 54
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (34)...(34)
<223> AMIDATION

<400> 54

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly

<210> 55

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

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (34)...(34)
<223> AMIDATION

<400> 55

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly

<210> 56
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (33)...(33)
<223> AMIDATION

<400> 56

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser

<210> 57
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (33)...(33)
<223> AMIDATION

<400> 57

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser

<210> 58
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (32)...(32)
<223> AMIDATION

<400> 58

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

<210> 59
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (32)...(32)
<223> AMIDATION

<400> 59

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

<210> 60
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> AMIDATION

<400> 60

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro
20 25 30

<210> 61
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> AMIDATION

<400> 61

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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro
            20                  25                  30
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<210> 62
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (30)...(30)
<223> AMIDATION

<400> 62

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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
 1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly
            20                  25                  30
```

<210> 63
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<400> 63

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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
            20                  25
```

<210> 64

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

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<400> 64

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly
20 25

<210> 65
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (31)...(31)
<223> thioproline

<220>
<221> MISC_FEATURE
<222> (36)...(38)
<223> thioproline

<220>
<221> MOD_RES
<222> (38)...(38)
<223> AMIDATION

<400> 65

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 66
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MISC_FEATURE
<222> (36)...(38)
<223> thioproline

<220>
<221> MOD_RES
<222> (38)...(38)
<223> AMIDATION

<400> 66

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa
35

<210> 67
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> N-methyl ala.

<220>
<221> MOD_RES
<222> (37)...(37)
<223> AMIDATION

<400> 67

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Ala Ser
20 25 30

Ser Gly Ala Pro Pro
35

<210> 68
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> N-methyl ala

<220>
<221> MOD_RES
<222> (36)...(37)
<223> N-methyl ala

<220>

<221> MOD_RES
<222> (37)...(37)
<223> AMIDATION

<400> 68

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Ala Ser
20 25 30

Ser Gly Ala Ala Ala
35

<210> 69
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MISC_FEATURE
<222> (31)...(31)
<223> homoproline

<220>
<221> MISC_FEATURE
<222> (36)...(37)
<223> homoproline

<220>
<221> MOD_RES
<222> (37)...(37)
<223> AMIDATION

<400> 69

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa
35

<210> 70
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MISC_FEATURE
<222> (31)...(31)
<223> homoproline

<220>
<221> MISC_FEATURE
<222> (36)...(36)
<223> homoproline.

<220>
<221> MOD_RES
<222> (36)...(36)
<223> AMIDATION

<400> 70

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa
35

<210> 71
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (35)...(35)
<223> AMIDATION

<400> 71

Arg Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala
35

<210> 72
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (30)...(30)
<223> AMIDATION

<400> 72

His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25 30

<210> 73
<211> 28
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 73

His Gly Glu Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 74
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 74

His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 75
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 75

His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 76

<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATON

<400> 76

His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Ala Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 77
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MISC_FEATURE
<222> (10)...(10)
<223> pentylglycine

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 77

His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 78
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MISC_FEATURE
<222> (22)...(22)
<223> naphthylalanine

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 78

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Ile Glu Phe Leu Lys Asn
20 25

<210> 79
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MISC_FEATURE
<222> (23)...(23)
<223> tert-butylglycine

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 79

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn
20 25

<210> 80
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (28)...(28)
<223> AMIDATION

<400> 80

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Asp Phe Leu Lys Asn
20 25

<210> 81
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (33)...(33)
<223> AMIDATION

<400> 81

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser

<210> 82
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATON

<400> 82

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
20 25

<210> 83
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> artificially synthesized sequence of novel exendin agonist compound

<220>
<221> MISC_FEATURE
<222> (31)...(31)
<223> homoproline

<220>
<221> MISC_FEATURE
<222> (36)...(37)
<223> homoproline

<220>
<221> MOD_RES
<222> (37)...(37)
<223> AMIDATION

<400> 83

His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa
35

<210> 84
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26)...(26)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (27)...(27)
<223> AMIDATION

<400> 84

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
20 25

<210> 85
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26)...(26)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (27)...(27)
<223> AMIDATION

<400> 85

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
20 25

<210> 86
<211> 29

<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26)...(26)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<400> 86

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
20 25

<210> 87
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26)...(26)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<400> 87

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly
20 25

<210> 88
<211> 27
<212> PRT
<213> Artificial Sequence

<220>

<223> Exendin analog

<220>
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<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (27)...(27)
<223> AMIDATION

<400> 88

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Lys
20 25

<210> 89
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> 4-imidazolylpropionyl-Gly

<220>
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<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (27)...(27)
<223> AMIDATION

<400> 89

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Lys
20 25

<210> 90
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (27..(27)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDTION

<400> 90

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Lys Gly Gly
20 25

<210> 91
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl.

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<400> 91

Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Lys Gly Gly
20 25

<210> 92
<211> 27
<212> PRT
<213> Artificial Sequence

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<222> (27)...(27)
<223> AMIDATION

<220>

<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26)...(26)
<223> Lys-NH(epsilon)octanoyl

<400> 92

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn
20 25

<210> 93
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (27)...(27)
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<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26)...(26)
<223> Lys-NH(epsilon)octanoyl

<400> 93

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn
20 25

<210> 94
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26),,,(26)
<223> Lys-NH(epsilon)octanoyl

<400> 94

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn Gly Gly
20 25

<210> 95
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (26)...(26)
<223> Lys-NH(epsilon)octanoyl

<400> 95

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn Gly Gly
20 25

<210> 96
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (27)...(27)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 96

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa
20 25

<210> 97
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (27)...(27)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 97

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa
20 25

<210> 98
<211> 29
<212> PRT
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<220>
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<220>
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<222> (29)...(29)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 98

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu Glu

1 5 10 15

Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa Gly Gly
20 25

<210> 99
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (29)...(29)
<223> AMIDATION

<220>
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<222> (1),,,(1)
<223> 4-imidazolylpropionyl-Gly

<220>
<221> MOD_RES
<222> (27),,,(27)
<223> Lys-NH(epsilon)octanoyl

<400> 99

Xaa Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu Glu
1 5 10 15

Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa Gly Gly
20 25

<210> 100
<211> 28
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<220>
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<220>
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<222> (28)...(28)
<223> AMIDATION

<220>
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<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 100

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn
20 25

<210> 101
<211> 28
<212> PRT

<213> Artificial Sequence

<220>
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<220>
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<222> (28)...(28)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 101

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn
20 25

<210> 102
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (30)...(30)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 102

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Xaa Asn Gly Gly
20 25 30

<210> 103
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (30)...(30)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 103

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Xaa Asn Gly Gly
20 25 30

<210> 104
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (28)...(28)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 104

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa
20 25

<210> 105
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (28)...(28)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 105

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa
20 25

<210> 106
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (30)...(30)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 106

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Xaa Gly Gly
20 25 30

<210> 107
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (30)...(30)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon)octanoyl

<400> 107

Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Xaa Gly Gly
20 25 30

<210> 108
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 108

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 109
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (39)...(39)
<223> AMIDATION

<400> 109

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 110
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 110

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 111
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)

<223> AMIDATION

<400> 111

Tyr Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 112
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 112

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Tyr
35

<210> 113
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 113

His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 114
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (6)...(6)
<223> napthylalanine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 114

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His Gly Glu Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
  1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
         35
```

<210> 115
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 115

```
His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu
  1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
         35
```

<210> 116
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 116

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His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu
  1               5                  10                  15
```

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 117
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 117

His Gly Glu Gly Thr Phe Thr Thr Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 118
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 118

His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 119
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES

<222> (10)...(10)
<223> pentylglycine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 119

His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 120
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (10)...(10)
<223> pentylglycine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 120

His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 121
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (14)...(14)
<223> pentylglycine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 121

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Xaa Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 122
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<220>
<221> MOD_RES
<222> (14)...(14)
<223> pentylglycine

<400> 122

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 123
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (22)..(22)
<223> napthylalanine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 123

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Xaa Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 124
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 124

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Val Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 125
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 125

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 126
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (23)...(23)
<223> tert-butylglycine

<220>

<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 126

```
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
  1               5                  10                  15

Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
         35
```

<210> 127
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (23)...(23)
<223> tert-butylglycine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 127

```
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
  1               5                  10                  15

Glu Ala Val Arg Leu Phe Xaa Glu Phe Leu Lys Asn Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
         35
```

<210> 128
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 128

```
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
  1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
```

35

<210> 129
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 129

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 130
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> thioproline

<220>
<221> MOD_RES
<222> (36)..(38)
<223> thioproline

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 130

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 131
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (36)..(38)
<223> thioproline

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 131

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 132
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> homoproline

<220>
<221> MOD_RES
<222> (36)..(38)
<223> homoproline

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 132

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 133
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (36)..(38)
<223> homoproline

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 133

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 134
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> thioproline

<220>
<221> MOD_RES
<222> (36)..(38)
<223> thioproline

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 134

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 135
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES

<222> (31)...(31)
<223> homoproline

<220>
<221> MOD_RES
<222> (36)..(38)
<223> homoproline

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 135

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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
  1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
            20                  25                  30

Ser Gly Ala Xaa Xaa Xaa Ser
        35
```

<210> 136
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> N-methylalanine

<220>
<221> MOD_RES
<222> (36)..(38)
<223> N-methylalanine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 136

```
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
  1               5                  10                  15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
            20                  25                  30

Ser Gly Ala Xaa Xaa Xaa Ser
        35
```

<210> 137
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (36)..(38)
<223> N-methylalanine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 137

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 138
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (31)...(31)
<223> N-methylalanine

<220>
<221> MOD_RES
<222> (36)..(38)
<223> N-methylalanine

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 138

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
20 25 30

Ser Gly Ala Xaa Xaa Xaa Ser
35

<210> 139
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

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

<223> 4-Imidazolylpropionyl

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon) octanoyl

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 139

Xaa Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 140
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-Imidazolylpropionyl

<220>
<221> MOD_RES
<222> (27)...(27)
<223> Lys-NH(epsilon) octanoyl

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 140

Xaa Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 141
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>

<221> MOD_RES
<222> (1)...(1)
<223> 4-Imidazolylpropionyl

<220>
<221> MOD_RES
<222> (28)...(28)
<223> Lys-NH(epsilon) octanoyl

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 141

Xaa Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Asn Lys Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 142
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin analog

<220>
<221> MOD_RES
<222> (1)...(1)
<223> 4-Imidazolylpropionyl

<220>
<221> MOD_RES
<222> (28)...(28)
<223> Lys-NH(epsilon) octanoyl

<220>
<221> MOD-RES
<222> (39)...(39)
<223> AMIDATION

<400> 142

Xaa Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Asn Lys Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35