CLAIMS

1. A compound having the formula:

R^1-Z-R^2

wherein
R^1 is H, C_{1-4} alkyl, acetyl, formyl, benzoyl or trifluoroacetyl;
R^2 is OH or NH_2; and

Z is a peptide having the formula I:

His-X2-X3-X4-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Lys-Tyr-Leu-X15-Ser-X17-Ala-Ala-X20-X21-Phe-Val-X24-Trp-Leu-X27-X28-Ala (I);

wherein
X2 is Aib, Ser or Gly;
X3 is Gln, Glu, Gly, His, Phe, Leu, Trp, Tyr, Val, Arg, Ala, Ser, Ile, Pro, Hph, Hse, Cit, 1-Nal or 3-(heterocyclyl)alanine;
X4 is Gly, Ala, D-Ala, Val, Aib, Leu, D-Leu, Pro, Glu, Phe, D-Phe, Arg or Lys;
X15 is Asp or Glu;
X17 is Arg or X;
X20 is Arg, His or X;
X21 is Asp or Glu;
X24 is Ala or X;
X27 is Leu or X;
X28 is Arg or X;

wherein each residue X is independently selected from the group consisting of Glu, Lys, Ser, Cys, Dbu, Dpr and Orn;

and wherein the side-chain of at least one amino acid residue X is optionally conjugated to a lipophilic substituent having the formula:
(i) Z^1, wherein Z^1 is a lipophilic moiety conjugated directly to the side chain of X; or
(ii) Z^1Z^2, wherein Z^1 is a lipophilic moiety, Z^2 is a spacer, and Z^1 is conjugated to the side chain of X via Z^2;

with the proviso that if X3 is Gln, then X4 is not Gly.

2. A compound according to claim 1, wherein one or more of said residues X is independently selected from Lys, Glu, Dbu, Dpr and Orn.

3. A compound according to claim 1 or claim 2, wherein:
X17 is selected from Lys and Cys;
X20 is selected from His, Lys, Arg and Cys;
X24 is selected from Lys, Glu and Ala;
X27 is selected from Leu and Lys; and/or
X28 is selected from Ser, Arg and Lys.

4. A compound according to any one of claims 1 to 3, wherein said peptide of formula I includes one or more of the following combinations of residues:
X2 is Aib and X17 is Lys;
X2 is Aib and X17 is Cys;
X2 is Aib and X20 is Cys;
X2 is Aib and X28 is Lys;
X17 is Lys and X20 is Lys;
X17 is Lys and X21 is Asp;
X17 is Lys and X24 is Glu;
X17 is Lys and X27 is Leu;
X17 is Lys and X27 is Lys;
X17 is Lys and X28 is Ser;
X17 is Lys and X28 is Arg;
X20 is Lys and X27 is Leu;
X21 is Asp and X27 is Leu;
X17 is Lys, X24 is Glu and X28 is Arg;
X17 is Lys, X24 is Glu and X28 is Lys;
X17 is Lys, X27 is Leu and X28 is Ser;
X17 is Lys, X27 is Leu and X28 is Arg;
X20 is Lys, X24 is Glu and X27 is Leu;
X20 is Lys, X27 is Leu and X28 is Ser;
X20 is Lys, X27 is Leu and X28 is Arg;
X17 is Lys, X20 is His, X24 is Glu and X28 is Ser;
X17 is Lys, X20 is Lys, X24 is Glu and X27 is Leu; or
X17 is Cys, X20 is Lys, X24 is Glu and X27 is Leu.

5. A compound according to any one of the preceding claims, wherein said peptide of formula I contains only one amino acid residue X.

6. A compound according to claim 5, wherein said peptide of formula I contains only one Lys residue, only one Cys residue or only one Glu residue, and wherein said lipophilic substituent is conjugated to that residue.

7. A compound according to any one of the preceding claims, wherein the peptide sequence of formula I comprises one or more intramolecular bridges.

8. A compound according to claim 7, wherein said intramolecular bridge is formed between the side-chains of two amino acid residues which are separated by three amino acids in the linear amino acid sequence of formula I.

9. A compound according to claim 8, wherein said intramolecular bridge is formed between the side-chains of amino acid residue pairs 17 and 21, 20 and 24, or 24 and 28.

10. A compound according to any one of claims 7 to 9, wherein said intramolecular bridge is a salt bridge or a lactam ring.

11. A compound according to any one of claims 7 to 10, wherein the intramolecular bridge involves a pair of residues wherein:
X17 is Arg and X21 is Glu;
X17 is Lys and X21 is Glu;
X17 is Arg and X21 is Asp;
X17 is Lys and X21 is Asp;
X20 is Glu and X24 is Lys;
X20 is Lys and X24 is Glu;
X20 is Arg and X24 is Glu;
X24 is Glu and X28 is Lys;
X24 is Glu and X28 is Arg; or
X24 is Lys and X28 is Glu.

12. A compound according to any one of the preceding claims, wherein the compound has just one lipophilic substituent, at position 17, 20, 24, 27 or 28, preferably at position 17 or 20, particularly at position 17.

13. A compound according to any one of claims 1 to 12, wherein the compound has precisely two lipophilic substituents, each conjugated to a respective amino acid residue at one of positions 17, 20, 24, 27 or 28.

14. A compound according to claim 13, wherein the compound has lipophilic substituents on respective amino acid residues at positions 17 and 20, 17 and 24, 17 and 27, or 17 and 28; at 20 and 24, 20 and 27, or 20 and 28; at 24 and 27, or 24 and 28; or at 27 and 28.

15. A compound according to claim 1, wherein said peptide of formula I has an amino acid sequence selected from the group consisting of:
H-Aib-EGTFTSDYSKYLDSKAAHDFVEWLLSA
H-Aib-HGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QATFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QVTFTSDYSKYLDSKAAHDFVEWLLSA;
HGQ-Aib-TFTSDYSKYLDSKAAHDFVEWLLSA;
HGEGTFTSDYSKYLDSKAAHDFVEWLLSA;
HSQ-Aib-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QLTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QPTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QETFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-Aib-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QFTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-FGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DPhe-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QRTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-LGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Hph-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-WGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-YGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-VGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QKTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-RGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-AGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-SGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-IGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-GGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-PGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLDSKAAHEFVEWLLEA;
H-Aib-Cit-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DAla-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Hse-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DLeu-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLESKAAEEFVEWLLEA;
H-Aib-1Nal-GTFTSDYSKYLDSKAAHDFVEWLLSA;

H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(4-pyridyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA; and
H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA.

16. A compound according to claim 15, wherein said peptide of formula I has an amino acid sequence selected from the group consisting of:
H-Aib-HGTFTSDYSKYLDSKAAHDFVEWLLSA;
HGEGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QLTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-FGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DPhe-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-LGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-YGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-VGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-AGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-SGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-IGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-GGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-PGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLDSKAAHEFVEWLLEA;
H-Aib-Cit-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DAla-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Hse-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DLeu-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLESKAAEEFVEWLLEA;
H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA; and
H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA.

17. A compound according to claim 1, wherein said peptide of formula I has an amino acid sequence selected from the group consisting of:

H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
HGEGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-QLTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-FGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Q-DPhe-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-LGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-YGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-VGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-AGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-SGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-IGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-GGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-PGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHEFVEWLLEA;
H-Aib-Cit-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Q-DAla-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Hse-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Q-DLeu-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLESK(hexadecanoyl-isoGlu)-AAEEFVEWLLEA;
H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA; and
H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA.

18. A compound according to claim 1, selected from the group consisting of:
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-HGEGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-QLTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-FGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DPhe-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-LGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-YGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-VGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-AGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-SGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-IGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-GGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;

H-H-Aib-PGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHEFVEWLLEA-NH_2;
H-H-Aib-Cit-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DAla-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Hse-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DLeu-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-HGTFTSDYSKYLESK(hexadecanoyl-isoGlu)-AAEEFVEWLLEA-NH_2;
H-H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2; and
H-H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2.

19. A compound according to claim 1, wherein X3 is selected among Gln, His, Ile, Tyr, Pro, Hse, 3-(4-thiazolyl)alanyl, 3-(3-pyridyl)alanyl, 3-(2-thienyl)alanyl, 3-(3-thienyl)alanyl and 3-(1,2,4-triazol-1-yl)alanyl.

20. A compound according to claim 19, wherein X4 is selected among Gly, D-Ala, D-Leu and D-Phe.

21. A compound according to claim 1, wherein X3 is selected among Glu, Gly, Leu, Val, Ala, Ser, Cit, 3-(2-furyl)alanyl and 3-(1-pyrazolyl)alanyl.

22. A compound according to claim 21, wherein X4 is Gly.

23. A compound according to claim 19 or 20, selected from the group consisting of:
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-IGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DPhe-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-YGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-PGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHEFVEWLLEA -NH_2;
H-H-Aib-Q-DAla-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-Hse-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-Q-DLeu-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-HGTFTSDYSKYLESK(hexadecanoyl-isoGlu)-AAEEFVEWLLEA -NH_2;
H-H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;

H-H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2; and H-H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2.

24. A compound according to claim 21 or 22, selected from the group consisting of:
H-HGEGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-LGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-VGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-AGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-SGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-GGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Cit-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2; and
H-H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2.

25. A pharmaceutical composition comprising a compound according to any one of claims 1 to 24, or a pharmaceutically acceptable salt or derivative thereof, together with a pharmaceutically acceptable carrier.

26. A compound according to any one of claims 1 to 24, for use in a method of medical treatment.

27. Use of a compound according to any one of claims 1 to 24 in the manufacture of a medicament for preventing weight gain or promoting weight loss in a subject in need thereof.

28. Use of a compound according to any one of claims 1 to 24 in the manufacture of a medicament for improving circulating glucose levels, glucose tolerance and/or circulating cholesterol levels, lowering circulating LDL levels, and/or increasing HDL/LDL ratio in a subject in need thereof.

29. Use of a compound according to any one of claims 1 to 24 in the manufacture of a medicament for treating a condition caused or characterised by excess body weight, e.g. the treatment and/or prevention of obesity, morbid obesity, obesity-linked inflammation, obesity-linked gallbladder disease, obesity-induced sleep apnea, pre-diabetes, insulin resistance, glucose intolerance, type 2 diabetes, type I diabetes, hypertension, atherogenic dyslipidaemia, atherosclerois, arteriosclerosis, coronary heart disease, peripheral artery disease, stroke or microvascular disease in a subject in need thereof.

30. A compound or use according to any one of claims 26 to 29, wherein said compound is to be administered as part of a combination therapy together with an agent for treatment of diabetes, obesity, dyslipidaemia, or hypertension.

31. A compound or use according to claim 30, wherein said agent for treatment of diabetes is metformin, a sulfonylurea, a glinide, a DPP-IV inhibitor, a glitazone, insulin or an insulin analogue.

32. A compound or use according to claim 30, wherein said agent for treatment of obesity is a glucagon-like peptide receptor 1 agonist, peptide YY or an analogue thereof, a cannabinoid receptor 1 antagonist, a lipase inhibitor, a melanocortin receptor 4 agonist, or a melanin concentrating hormone receptor 1 antagonist.

33. A compound or use according to claim 30, wherein said agent for treatment of hypertension is an angiotensin-converting enzyme inhibitor, an angiotensin II receptor blocker, a diuretic, a beta-blocker, or a calcium channel blocker.

34. A compound or use according to claim 30, wherein said agent for treatment of dyslipidaemia is a statin, a fibrate, a niacin or a cholesterol absorption inhibitor.

CLAIMS

1. A compound having the formula:

R^1-Z-R^2

wherein
R^1 is H, C_{1-4} alkyl, acetyl, formyl, benzoyl or trifluoroacetyl;
R^2 is OH or NH_2; and

Z is a peptide having the formula I:

His-X2-X3-X4-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Lys-Tyr-Leu-X15-Ser-X17-Ala-Ala-X20-X21-Phe-Val-X24-Trp-Leu-X27-X28-Ala (I);

wherein
X2 is Aib, Ser or Gly;
X3 is Gln, Gly, His, Phe, Leu, Trp, Tyr, Val, Arg, Ala, Ser, Ile, Pro, Hph, Hse, Cit, 1-Nal or 3-(heterocyclyl)alanine;
X4 is Gly, Ala, D-Ala, Val, Aib, Leu, D-Leu, Pro, Glu, Phe, D-Phe, Arg or Lys;
X15 is Asp or Glu;
X17 is Arg or X;
X20 is Arg, His or X;
X21 is Asp or Glu;
X24 is Ala or X;
X27 is Leu or X;
X28 is Arg or X;

wherein each residue X is independently selected from the group consisting of Glu, Lys, Ser, Cys, Dbu, Dpr and Orn;

and wherein the side-chain of at least one amino acid residue X is optionally conjugated to a lipophilic substituent having the formula:
(i) Z^1, wherein Z^1 is a lipophilic moiety conjugated directly to the side chain of X; or
(ii) Z^1Z^2, wherein Z^1 is a lipophilic moiety, Z^2 is a spacer, and Z^1 is conjugated to the side chain of X via Z^2;

with the proviso that if X3 is Gln, then X4 is not Gly;
and wherein the compound has physiological activity at the glucagon receptor and/or the GLP-1 receptor.

2. A compound having the formula:

R^1-Z-R^2

wherein
R^1 is H, C_{1-4} alkyl, acetyl, formyl, benzoyl or trifluoroacetyl;
R^2 is OH or NH_2; and

Z is a peptide having the formula I:

His-X2-X3-X4-Thr-Phe-Thr-Ser-Asp-Tyr-Ser-Lys-Tyr-Leu-X15-Ser-X17-Ala-Ala-X20-X21-Phe-Val-X24-Trp-Leu-X27-X28-Ala (I);

wherein:
X2 is Aib or Ser;
X3 is Gln, Gly, His, Leu, Trp, Tyr, Val, Ala, Ser, Ile, Pro, Hph, Hse, Cit or 3-(heterocyclyl)alanine;
X4 is Gly, Ala, D-Ala, Aib, D-Leu, Glu, Phe or D-Phe;
X15 is Asp or Glu;
X17 is Lys;
X20 is His or Glu;
X21 is Asp or Glu;
X24 is Glu;
X27 is Leu;
X28 is Ser or Glu;
wherein the side-chain of the Lys residue at position X17 is conjugated to a lipophilic substituent having the formula:
(i) Z^1, wherein Z^1 is a lipophilic moiety conjugated directly to the side chain of the Lys residue; or
(ii) Z^1Z^2, wherein Z^1 is a lipophilic moiety, Z^2 is a spacer, and Z^1 is conjugated to the side chain of the Lys residue via Z^2;

with the proviso that if X3 is Gln, then X4 is not Gly;
and wherein the compound has physiological activity at the glucagon receptor and/or the GLP-1 receptor.

3. A compound according to claim 1, wherein one or more of said residues X is independently selected from Lys, Glu, Dbu, Dpr and Orn.

4. A compound according to claim 1 or claim 3, wherein:
X17 is selected from Lys and Cys;
X20 is selected from His, Lys, Arg and Cys;

X24 is selected from Lys, Glu and Ala;
X27 is selected from Leu and Lys; and/or
X28 is selected from Ser, Arg and Lys.

5. A compound according to any one of claims 1, 3 or 4, wherein said peptide of formula I includes one or more of the following combinations of residues:
X2 is Aib and X17 is Lys;
X2 is Aib and X17 is Cys;
X2 is Aib and X20 is Cys;
X2 is Aib and X28 is Lys;
X17 is Lys and X20 is Lys;
X17 is Lys and X21 is Asp;
X17 is Lys and X24 is Glu;
X17 is Lys and X27 is Leu;
X17 is Lys and X27 is Lys;
X17 is Lys and X28 is Ser;
X17 is Lys and X28 is Arg;
X20 is Lys and X27 is Leu;
X21 is Asp and X27 is Leu;
X17 is Lys, X24 is Glu and X28 is Arg;
X17 is Lys, X24 is Glu and X28 is Lys;
X17 is Lys, X27 is Leu and X28 is Ser;
X17 is Lys, X27 is Leu and X28 is Arg;
X20 is Lys, X24 is Glu and X27 is Leu;
X20 is Lys, X27 is Leu and X28 is Ser;
X20 is Lys, X27 is Leu and X28 is Arg;
X17 is Lys, X20 is His, X24 is Glu and X28 is Ser;
X17 is Lys, X20 is Lys, X24 is Glu and X27 is Leu; or
X17 is Cys, X20 is Lys, X24 is Glu and X27 is Leu.

6. A compound according to any one of claims 1 or 3 to 5, wherein said peptide of formula I contains only one amino acid residue X.

7. A compound according to claim 6, wherein said peptide of formula I contains only one Lys residue, only one Cys residue or only one Glu residue, and wherein said lipophilic substituent is conjugated to that residue.

8. A compound according to any one of claims 1 or 3 to 7, wherein the peptide sequence of formula I comprises one or more intramolecular bridges.

9. A compound according to claim 8, wherein said intramolecular bridge is formed between the side-chains of two amino acid residues which are separated by three amino acids in the linear amino acid sequence of formula I.

10. A compound according to claim 9, wherein said intramolecular bridge is formed between the side-chains of amino acid residue pairs 17 and 21, 20 and 24, or 24 and 28.

11. A compound according to any one of claims 8 to 10, wherein said intramolecular bridge is a salt bridge or a lactam ring.

12. A compound according to any one of claims 8 to 11, wherein the intramolecular bridge involves a pair of residues wherein:
X17 is Arg and X21 is Glu;
X17 is Lys and X21 is Glu;
X17 is Arg and X21 is Asp;
X17 is Lys and X21 is Asp;
X20 is Glu and X24 is Lys;
X20 is Lys and X24 is Glu;
X20 is Arg and X24 is Glu;
X24 is Glu and X28 is Lys;
X24 is Glu and X28 is Arg; or
X24 is Lys and X28 is Glu.

13. A compound according to any one claims 1 or 3 to 12, wherein the compound has just one lipophilic substituent, at position 17, 20, 24, 27 or 28, preferably at position 17 or 20, particularly at position 17.

14. A compound according to any one of claims 1 or 3 to 12, wherein the compound has precisely two lipophilic substituents, each conjugated to a respective amino acid residue at one of positions 17, 20, 24, 27 or 28.

15. A compound according to claim 14, wherein the compound has lipophilic substituents on respective amino acid residues at positions 17 and 20, 17 and 24, 17 and 27, or 17 and 28; at 20 and 24, 20 and 27, or 20 and 28; at 24 and 27, or 24 and 28; or at 27 and 28.

16. A compound according to claim 1 or claim 2, wherein said peptide of formula I has an amino acid sequence selected from the group consisting of:
H-Aib-HGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QATFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QVTFTSDYSKYLDSKAAHDFVEWLLSA;
HGQ-Aib-TFTSDYSKYLDSKAAHDFVEWLLSA;

HSQ-Aib-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QLTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QPTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QETFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-Aib-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QFTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-FGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DPhe-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QRTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-LGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Hph-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-WGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-YGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-VGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-QKTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-RGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-AGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-SGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-IGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-GGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-PGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLDSKAAHEFVEWLLEA;
H-Aib-Cit-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DAla-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Hse-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DLeu-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLESKAAEEFVEWLLEA;
H-Aib-1Nal-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(4-pyridyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA; and
H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA.

17. A compound according to claim 16, wherein said peptide of formula I has an amino acid sequence selected from the group consisting of:
H-Aib-HGTFTSDYSKYLDSKAAHDFVEWLLSA;

H-Aib-QLTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-FGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DPhe-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-LGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-YGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-VGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-AGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-SGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-IGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-GGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-PGTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLDSKAAHEFVEWLLEA;
H-Aib-Cit-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DAla-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Hse-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-Q-DLeu-TFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLESKAAEEFVEWLLEA;
H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA;
H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA; and
H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSKAAHDFVEWLLSA.

18. A compound according to claim 1 or claim 2, wherein said peptide of formula I has an amino acid sequence selected from the group consisting of:
H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-QLTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-FGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Q-DPhe-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-LGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-YGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-VGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-AGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-SGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-IGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-GGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-PGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHEFVEWLLEA;

H-Aib-Cit-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Q-DAla-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Hse-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-Q-DLeu-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-HGTFTSDYSKYLESK(hexadecanoyl-isoGlu)-AAEEFVEWLLEA;
H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA;
H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA; and
H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA.

19. A compound according to claim 1 or claim 2, selected from the group consisting of:
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-QLTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-FGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DPhe-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-LGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-YGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-VGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-AGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-SGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-IGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-GGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-PGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHEFVEWLLEA-NH_2;
H-H-Aib-Cit-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DAla-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Hse-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DLeu-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-HGTFTSDYSKYLESK(hexadecanoyl-isoGlu)-AAEEFVEWLLEA-NH_2;
H-H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2; and
H-H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2.

20. A compound according to claim 1 or claim 2, wherein X3 is selected among Gln, His, Ile, Tyr, Pro, Hse, 3-(4-thiazolyl)alanyl, 3-(3-pyridyl)alanyl, 3-(2-thienyl)alanyl, 3-(3-thienyl)alanyl and 3-(1,2,4-triazol-1-yl)alanyl.

21. A compound according to claim 20, wherein X4 is selected among Gly, D-Ala, D-Leu and D-Phe.

22. A compound according to claim 1 or claim 2, wherein X3 is selected among Gly, Leu, Val, Ala, Ser, Cit,
3-(2-furyl)alanyl and 3-(1-pyrazolyl)alanyl.

23. A compound according to claim 22, wherein X4 is Gly.

24. A compound according to claim 20 or 21, selected from the group consisting of:
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-IGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Q-DPhe-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-YGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-PGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-HGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHEFVEWLLEA -NH_2;
H-H-Aib-Q-DAla-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-Hse-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-Q-DLeu-TFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-HGTFTSDYSKYLESK(hexadecanoyl-isoGlu)-AAEEFVEWLLEA -NH_2;
H-H-Aib-[3-(4-thiazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-[3-(3-pyridyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-[3-(2-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2;
H-H-Aib-[3-(3-thienyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2; and
H-H-Aib-[3-(1,2,4-triazol-1-yl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA -NH_2.

25. A compound according to claim 22 or 23, selected from the group consisting of:
H-H-Aib-LGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-VGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-AGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-SGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-GGTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-Cit-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2;
H-H-Aib-[3-(1-pyrazolyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2; and
H-H-Aib-[3-(2-furyl)alanyl]-GTFTSDYSKYLDSK(hexadecanoyl-isoGlu)-AAHDFVEWLLSA-NH_2.

26. A pharmaceutical composition comprising a compound according to any one of claims 1 to 25, or a pharmaceutically acceptable salt or derivative thereof, together with a pharmaceutically acceptable carrier.

27. A compound according to any one of claims 1 to 25, for use in a method of medical treatment.

28. A compound according to any one of claims 1 to 25, for use in preventing weight gain or promoting weight loss in a subject in need thereof.

29. A compound according to any one of claims 1 to 25, for use in a method of improving circulating glucose levels, glucose tolerance and/or circulating cholesterol levels, lowering circulating LDL levels, and/or increasing HDL/LDL ratio.

30. A compound according to any one of claims 1 to 25, for use in a method of treatment of a condition caused or characterised by excess body weight, e.g. the treatment and/or prevention of obesity, morbid obesity, obesity-linked inflammation, obesity-linked gallbladder disease, obesity-induced sleep apnea, metabolic syndrome, pre-diabetes, insulin resistance, glucose intolerance, type 2 diabetes, type I diabetes, hypertension, atherogenic dyslipidaemia, atherosclerois, arteriosclerosis, coronary heart disease, peripheral artery disease, stroke or microvascular disease.

31. Use of a compound according to any one of claims 1 to 25 for preventing weight gain or promoting weight loss in a subject in need thereof.

32. Use of a compound according to any one of claims 1 to 25 in a method of improving circulating glucose levels, glucose tolerance and/or circulating cholesterol levels, lowering circulating LDL levels, and/or increasing HDL/LDL ratio in a subject in need thereof.

33. Use of a compound according to any one of claims 1 to 25 in a method of treatment of a condition caused or characterised by excess body weight, e.g. the treatment and/or prevention of obesity, morbid obesity, obesity-linked inflammation, obesity-linked gallbladder disease, obesity-induced sleep apnea, pre-diabetes, insulin resistance, glucose intolerance, type 2 diabetes, type I diabetes, hypertension, atherogenic dyslipidaemia, atherosclerois, arteriosclerosis, coronary heart disease, peripheral artery disease, stroke or microvascular disease in a subject in need thereof.

34. A compound, use or method according to any one of claims 27 to 33, wherein said compound is administered as part of a combination therapy together with an agent for treatment of diabetes, obesity, dyslipidaemia, or hypertension.

35. A compound, use or method according to claim 34, wherein said agent for treatment of diabetes is metformin, a sulfonylurea, a glinide, a DPP-IV inhibitor, a glitazone, insulin or an insulin analogue.

36. A compound, use or method according to claim 34, wherein said agent for treatment of obesity is a glucagon-like peptide receptor 1 agonist, peptide YY or an analogue thereof, a cannabinoid receptor 1 antagonist, a lipase inhibitor, a melanocortin receptor 4 agonist, or a melanin concentrating hormone receptor 1 antagonist.

37. A compound, use or method according to claim 34, wherein said agent for treatment of hypertension is an angiotensin-converting enzyme inhibitor, an angiotensin II receptor blocker, a diuretic, a beta-blocker, or a calcium channel blocker.

38. A compound, use or method according to claim 34, wherein said agent for treatment of dyslipidaemia is a statin, a fibrate, a niacin or a cholesterol absorption inhibitor.