We Claim:

1. A composition consisting as claimed in an oxyntomodulin, a polyethylene glycol polymer (PEG polymer) and 9-fluorenylmethoxycarbonyl (Fmoc) or 2-sulfo-9-fluorenylmethoxycarbonyl (FMS), wherein said PEG polymer is attached to the amino terminus of said oxyntomodulin via Fmoc or FMS.

2. The composition as claimed in claim 1, wherein said oxyntomodulin consists of the amino acid sequence set forth in SEQ ID NO: 1.

3. The composition as claimed in any one of claims 1 to 2, wherein said PEG polymer is a PEG polymer with a sulfhydryl moiety.

4. The composition as claimed in any one of claims 1 to 3, wherein said PEG polymer is PEG_{30}.

5. A pharmaceutical composition comprising the composition as claimed in any one of claims 1-4 and a pharmaceutical acceptable carrier.

6. A composition consisting of an oxyntomodulin, a polyethylene glycol polymer (PEG polymer) and 9-fluorenylmethoxycarbonyl (Fmoc) or 2-sulfo-9-fluorenylmethoxycarbonyl (FMS), wherein said PEG polymer is attached to a lysine residue on position number twelve (Lys_{12}) of said oxyntomodulin' s amino acid sequence via Fmoc or FMS.

7. The composition as claimed in claim 6, wherein said oxyntomodulin consists of the amino acid sequence set forth in SEQ ID NO: 1.

8. The composition as claimed in any one of claims 6 to 7, wherein said PEG polymer is a PEG polymer with a sulfhydryl moiety.

9. The composition as claimed in any one of claims 6 to 8, wherein said PEG polymer is PEG_{30}.

10. A pharmaceutical composition comprising the composition as claimed in any one of claims 6 to 9 and a pharmaceutical acceptable carrier.

11. A composition consisting of an oxyntomodulin, a polyethylene glycol polymer (PEG polymer) and 9-fluorenylmethoxycarbonyl (Fmoc) or 2-sulfo-9-fluorenylmethoxycarbonyl (FMS), wherein said PEG polymer is attached to lysine residue number thirty (Lys_{30}) of said oxyntomodulin via Fmoc or FMS.

12. The composition as claimed in claim 11, wherein said oxyntomodulin consists of the amino acid sequence set forth in SEQ ID NO: 1.

13. The composition as claimed in any one of claims 11 to 12, wherein said PEG polymer is a PEG polymer with a sulfhydryl moiety.

14. The composition as claimed in any one of claims 11 to 13, wherein said PEG polymer is PEG_{30}.

15. A pharmaceutical composition comprising the composition as claimed in any one of claims 11 to 14 and a pharmaceutical acceptable carrier.

16. A method of improving the area under the curve (AUC) of oxyntomodulin, consisting of the step of conjugating a polyethylene glycol polymer (PEG polymer) to the Lysine residue on position number 12 or to the Lysine residue on position number 30 or to the amino terminus of said oxyntomodulin amino acid sequence via 9-fluorenylmethoxycarbonyl (Fmoc) or 2-sulfo-9-fluorenylmethoxycarbonyl (FMS).

17. The method as claimed in claim 16, wherein said oxyntomodulin consists of an amino acid sequence of SEQ ID NO: 1.

18. The method as claimed in any one of claims 16 to 17, wherein said PEG polymer is conjugated to the amino terminus or lysine residue of said oxyntomodulin via Fmoc or FMS.

19. The method as claimed in any one of claims 16 to 18, wherein said PEG polymer is a PEG polymer with a sulfhydryl moiety.

20. The method as claimed in any one of claims 16 to 19, wherein said PEG polymer is PEG_{30}.

21. A method of reducing the dosing frequency of oxyntomodulin, consisting of the step of conjugating a polyethylene glycol polymer (PEG polymer) to the Lysine residue on position number 12 or to the Lysine residue on position number 30 or to the amino terminus of said oxyntomodulin amino acid sequence via 9-fluorenylmethoxycarbonyl (Fmoc) or 2-sulfo-9-fluorenylmethoxycarbonyl (FMS).

22. The method as claimed in claim 21, wherein said oxyntomodulin consists of an amino acid sequence of SEQ ID NO: 1.

23. The method as claimed in any one of claims 21 to 22, wherein said PEG polymer is a PEG polymer with a sulfhydryl moiety.

24. The method as claimed in any one of claims 21 to 23, wherein said PEG polymer is PEG_{30}.

25. A method for extending the biological half-life of oxyntomodulin, consisting of the step of conjugating oxyntomodulin, a polyethylene glycol polymer (PEG polymer) and 9-fluorenylmethoxycarbonyl (Fmoc) or 2-sulfo-9-fluorenylmethoxycarbonyl (FMS), wherein said PEG polymer is conjugated to a Lysine residue on position number 12 or to a Lysine residue on position number 30 or to the amino terminus of said oxyntomodulin amino acid sequence via 9-fluorenylmethoxycarbonyl (Fmoc) or 2-sulfo-9-fluorenylmethoxycarbonyl (FMS).

26. The method as claimed in claim 25, wherein said oxyntomodulin consists of an amino acid sequence of SEQ ID NO: 1.

27. The method as claimed in any one of claims 25 to 26, wherein said PEG polymer is conjugated to the amino terminus or lysine residue of said oxyntomodulin via Fmoc or FMS.

28. The method as claimed in any one of claims 25 to 27, wherein said PEG polymer is a PEG polymer with a sulfhydryl moiety.

29. The method as claimed in any one of claims 25 to 28, wherein said PEG polymer is PEG_{30}.

30. The method as claimed in any one of claims 25 to 29, wherein said oxyntomodulin is released into a biological fluid by chemically hydrolyzing said FMS or said Fmoc linker from said composition.

31. The method as claimed in claim 30, wherein the released oxyntomodulin is intact and regains GLP-1 and glucagon receptor binding activity.

32. The method as claimed in any one of claims 30 to 31, wherein said biological fluid is blood, sera, or cerebrospinal fluid.

33. The method as claimed in any one of claims 30 to 32, wherein said biological fluid is in a human subject.

34. The method as claimed in any one of claims 30 to 33, wherein chemically hydrolyzing said FMS or said Fmoc extends the circulating time of said oxyntomodulin peptide in said biological fluid.

35. The method as claimed in claim 34, wherein extending the circulating time of said oxyntomodulin allows said oxyntomodulin to cross the blood brain barrier and target the CNS.

36. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for inducing glucose tolerance in a subject in need thereof.

37. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for inducing glycemic control in a subject in need thereof.

38. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for reducing food intake in a subject.

39. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for reducing body weight in a subject.

40. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for improving the cholesterol levels in a subject.

41. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for method of increasing insulin sensitivity in a subject.

42. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for reducing insulin resistance in a subject.

43. Use of the composition as claimed in any one of claims 1-5, 6-10, or 11-15 for method for increasing energy expenditure in a subject.

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for **KAN AND KRISHME**

To,
The Controller of Patents
The Patent Office, Delhi