Claims

1. A glucagon-like peptide-1 (GLP-1)/growth differentiation factor 15 (GDF15) fusion protein, wherein the GLP-1-GDF15 fusion protein comprises a GLP-1 peptide, which is fused to a first linker peptide, which is fused to a serum albumin protein, which is fused to a second linker peptide, which is fused to a GDF15 protein, wherein the GLP-1 peptide comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:1-4, and wherein the GDF15 protein comprises an amino acid sequence selected from SEQ ID NO:31 or SEQ ID NO:32.

2. The GLP-1-GDF15 fusion protein of claim 1, wherein the first linker peptide comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:5-25.

3. The GLP-1-GDF15 fusion protein of claim 1, wherein the serum albumin protein comprises an amino acid sequence selected from SEQ ID NO:26 or SEQ ID NO:27.

4. The GLP-1-GDF15 fusion protein of claim 1, wherein the second linker peptide comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:28-30.

5. The GLP-1-GDF15 fusion protein of claim 1, wherein the GLP-1-GDF15 fusion protein comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:33-72.

6. An isolated nucleic acid encoding the GLP-1-GDF15 fusion protein of claim 1.

7. A vector comprising the isolated nucleic acid of claim 6.

8. A host cell comprising the isolated nucleic acid of claim 6.

9. A pharmaceutical composition comprising the GLP-1-GDF15 fusion protein of claim 1 and a pharmaceutically acceptable carrier.

10. A kit comprising the GLP-1-GDF15 fusion protein of claim 1.

11. The kit of claim 10, wherein the kit further comprises a device for injection.