

WHAT IS CLAIMED IS:

1. A dual active fusion molecule for the treatment of diabetes comprising an anti-PCSK9 antibody stably fused to a GLP-1 peptide, wherein the anti-PCSK9 antibody binds a PCSK9 polypeptide and the GLP-1 peptide binds a GLP-1 receptor.
2. The dual active fusion molecule of claim 1, wherein the GLP-1 peptide comprises the amino acid sequence of SEQ ID NO: 3.
3. A dual active fusion molecule for the treatment of diabetes comprising an anti-PCSK9 antibody stably fused to a GLP-1 peptide comprising the amino acid sequence of SEQ ID NO: 3, wherein the C-terminus of the GLP-1 peptide is fused via a peptide linker to the anti-PCSK9 antibody, and wherein the anti-PCSK9 antibody binds a PCSK9 polypeptide and the GLP-1 peptide binds a GLP-1 receptor.
4. A dual active fusion molecule comprising an anti-PCSK9 antibody stably fused to a GLP-1 peptide comprising the amino acid sequence of SEQ ID NO: 3, wherein the C-terminus of the GLP-1 peptide is fused via a peptide linker to the anti-PCSK9 antibody, and wherein the anti-PCSK9 antibody binds a PCSK9 polypeptide and the GLP-1 peptide binds a GLP-1 receptor.
5. The dual active fusion molecule of claim 4, wherein the GLP-1 peptide is fused via a peptide linker to the light chain of the anti-PCSK9 antibody.
6. The dual active fusion molecule of claim 4, wherein the GLP-1 peptide is fused via a peptide linker to the heavy chain of the anti-PCSK9 antibody.
7. The dual active fusion molecule of claim 5, wherein the light chain of the anti-PCSK9 antibody is at least 90% identical to the amino acid sequence of SEQ ID NO: 2.

8. The dual active fusion molecule of claim 7, wherein the light chain of the anti-PCSK9 antibody comprises the amino acid sequence of SEQ ID NO: 2.
9. The dual active fusion molecule of claim 6, wherein the heavy chain of the anti-PCSK9 antibody is at least 90% identical to the amino acid sequence of SEQ ID NO: 1.
10. The dual active fusion molecule of claim 9, wherein the heavy chain of the anti-PCSK9 antibody comprises the amino acid sequence of SEQ ID NO: 1.
11. A dual active fusion molecule for the treatment of diabetes comprising an anti-PCSK9 antibody stably fused to a GLP-1 peptide that has reduced potency at the human GLP-1 receptor compared to a GLP-1 peptide comprising the amino acid sequence of SEQ ID NO: 28 or SEQ ID NO: 29, wherein the C-terminus of the GLP-1 peptide is fused via a peptide linker to the anti-PCSK9 antibody, and wherein the anti-PCSK9 antibody binds a PCSK9 polypeptide and the GLP-1 peptide binds a GLP-1 receptor.
12. An isolated polynucleotide encoding the dual active fusion molecule of claim 1.
13. A vector comprising the polynucleotide of claim 12.
14. A host cell comprising the polynucleotide of claim 12.
15. A method of making a fusion molecule, comprising culturing the host cell of claim 14 under conditions allowing expression of the fusion molecule, and recovering the fusion molecule.
16. A pharmaceutical composition comprising the dual active fusion molecule of claim 1, and a carrier.
17. A kit comprising the composition of claim 16.

18. The dual active fusion molecule of claim 4, wherein the light chain of the anti-PCSK9 antibody comprises the amino acid sequence of SEQ ID NO: 2 and the heavy chain of the anti-PCSK9 antibody comprises the amino acid sequence of SEQ ID NO: 1.