What is Claimed

1. An antisense oligonucleotide for the treatment of a synucleinopathy comprising a contiguous nucleotide sequence of 10 to 30 nucleotides in length and a sequence as set forth in:

(i) SEQ ID NO: 7;

(ii) SEQ ID NO: 4;

(iii) SEQ ID NO: 5;

(iv) SEQ ID NO: 6;

(v) SEQ ID NO: 8;

(vi) SEQ ID NO: 9;

(vii) SEQ ID NO: 10;

(viii) SEQ ID NO: 11;

(ix) SEQ ID NO: 12;

(x) SEQ ID NO: 13;

(xi) SEQ ID NO: 14;

(xii) SEQ ID NO: 16;

(xiii) SEQ ID NO: 17;

(xiv) SEQ ID NO: 18;

(xv) SEQ ID NO: 19;

(xvi) SEQ ID NO: 20;

(xvii) SEQ ID NO: 21;

and wherein the antisense oligonucleotide is an alternating flank gapmer.

2. The antisense oligonucleotide of claim 1, wherein the contiguous nucleotide sequence comprises a sequence as set forth in:

   (i) SEQ ID NO: 7 with the design of AttCctttacaccACaCT (ASO-005578), AttCctttacaccAcACT (ASO-005584), AttCctttacaccaCACT (ASO-005597), or AttCctttacaccacACT (ASO-005611);

   (ii) SEQ ID NO: 9 with the design of AatTCctttacaccacACT (ASO-005717) or AAttCctttacaccaCACT (ASO-005700);

   (iii) SEQ ID NO: 12 with the design of ttccTttacaccacac (ASO-288906), ttCctttacaccAcAc (ASO-287957), TtcctttacaccaCaC (ASO-287959), or ttCctttacaccACac (ASO-287962); or

   (iv) SEQ ID NO: 14 with the design of AAttcctttacACCAcAC (ASO-005650), AAttCctttacacCaCAC (ASO-005496), or AAttCCtTtacaccacAC (ASO-005392); and

   wherein the upper case letter is a beta-D-oxy locked nucleic acid (LNA) and the lower case letter is DNA.

3. The antisense oligonucleotide of claim 1 or 2, wherein the antisense oligonucleotide is capable of inhibiting the expression of the human alpha-synuclein (*SNCA*) transcript in a cell which is expressing the human *SNCA* transcript.

4. The antisense oligonucleotide of any one of claims 1 to 3, wherein the antisense oligonucleotide comprises one or more 5' methyl cytosine nucleobases.

5. The antisense oligonucleotide of any one of claims 1 to 4, which reduces expression of *SNCA* mRNA in a cell by at least 20%, at least 30%, at least 40%, at least 50%, at least 60%, at least 70%, at least 80%, at least 90%, or 100% compared to a cell not exposed to the antisense oligonucleotide.

6. The antisense oligonucleotide of any one of claims 1 to 5, which reduces expression of SNCA protein in a cell by at least 60%, at least 70%, at least 80%, at least 90%, or at least 95% compared to a cell not exposed to the antisense oligonucleotide.

7. The antisense oligonucleotide of any one of claims 1 to 6, which has from 10 to 24 nucleotides in length or from 14 to 21 nucleotides in length.

8. The antisense oligonucleotide of any one of claims 1 to 7, which has 14, 15, 16, 17, 18, 19, 20, or 21 nucleotides in length.

9. The antisense oligonucleotide of claim 2, wherein the ASO comprises a molecular formula of $C_{182}H_{229}N_{58}O_{96}P_{17}S_{17}$.

10. The antisense oligonucleotide of claim 2, wherein the ASO comprises a molecular formula of $C_{181}H_{227}N_{58}O_{96}P_{17}S_{17}$.

11. The antisense oligonucleotide of any one of claims 1 to 8, which comprises an internucleoside linkage selected from: a phosphodiester linkage, a phosphotriester linkage, a methylphosphonate linkage, a phosphoramidate linkage, a phosphorothioate linkage, and combinations thereof.

12. The antisense oligonucleotide of claim 11, wherein the internucleoside linkage comprises one or more stereo-defined, modified phosphate linkages.

13. A conjugate comprising the antisense oligonucleotide of any one of claims 1 to 12, wherein the antisense oligonucleotide is covalently attached to at least one non-nucleotide or non-polynucleotide moiety.

14. The conjugate of claim 13, wherein the non-nucleotide or non-polynucleotide moiety comprises a protein, a fatty acid chain, a sugar residue, a glycoprotein, a polymer, or any combinations thereof.

15. A pharmaceutical composition comprising the antisense oligonucleotide of any one claims 1 to 12 or the conjugate of claim 13 or 14 and a pharmaceutically acceptable carrier.

16. The composition of claim 15, which further comprises a therapeutic agent.

17. The composition of claim 16, wherein the therapeutic agent is an alpha-synuclein antagonist.

18. The composition of claim 17, wherein the alpha-synuclein antagonist is an anti-alpha-synuclein antibody or fragment thereof.

19. A kit comprising the antisense oligonucleotide of any one claims 1 to 11, the conjugate of claim 13 or 14, or the composition of any one of claims 15 to 18, and instructions for use.

20. A diagnostic kit comprising the antisense oligonucleotide of any one claims 1 to 12, the conjugate of claim 13 or 14, or the composition of any one of claims 15 to 18, and instructions for use.

21. A method of inhibiting or reducing SNCA protein expression in a cell *in vitro*, the method comprising administering the antisense oligonucleotide of any one claims 1 to 12, or the conjugate of claim 13 or 14, or the composition of any one of claims 15 to 18 to the cell expressing SNCA protein, wherein the SNCA protein expression in the cell is inhibited or reduced after the administration.

22. The method of claim 21, wherein the antisense oligonucleotide inhibits or reduces expression of *SNCA* mRNA in the cell after the administration.

23. The method of claim 21 or 22, wherein the expression of *SNCA* mRNA is reduced by at least 20%, at least 30%, at least 40%, at least 50%, at least 60%, at least 70%, at least 80%, at least 90%, or 100% after the administration compared to a cell not exposed to the antisense oligonucleotide.

24. The method of any one of claims 21 to 23, wherein the antisense oligonucleotide reduces expression of SNCA protein in the cell after the administration by at least 60%, at least 70%, at least 80%, or at least 90% compared to a cell not exposed to the antisense oligonucleotide.

25. The method of any one of claims 21 to 24, wherein the cell is a neuron.

26. Use of the antisense oligonucleotide of any one claims 1 to 12, the conjugate of claim 13 or 14, or the composition of any one of claims 15 to 18 for the manufacture of a medicament for the treatment of a synucleinopathy in a subject in need thereof.

27. The antisense oligonucleotide of any one claims 1 to 12, the conjugate of claim 13 or 14, or the composition of any one of claims 15 to 18 for use in therapy.

28. The antisense oligonucleotide of any one claims 1 to 12, the conjugate of claim 13 or 14, or the composition of any one of claims 15 to 18 for use in therapy of a synucleinopathy in a subject in need thereof.

29. The use of claim 26, or the antisense oligonucleotide for use of claim 28, wherein the synucleinopathy is selected from the group consisting of Parkinson’s disease, Parkinson's Disease Dementia (PDD), multiple system atrophy, dementia with Lewy bodies, and any combinations thereof.

30. The use of claim 26, or the antisense oligonucleotide for use of claim 28, wherein the subject is a human.

31. The use of any one of claims 26, 29, and 30, or the antisense oligonucleotide for use of any one of claims 27 to 30, wherein the antisense oligonucleotide, the conjugate, or the composition is to be administered orally, parenterally, intrathecally, intra-cerebroventricularly, pulmonarily, topically, or intraventricularly.