

CLAIMS

1. An anti- α -synuclein antibody for use in a method of treating a synucleinopathy in a human subject in need thereof, the method comprising administering intravenously to the human subject the anti- α -synuclein antibody at a dose of 3 mg per kg, 5 mg per kg, 15 mg per kg, 45 mg per kg, or 90 mg per kg of body weight of the human subject, wherein the anti- α -synuclein antibody comprises an immunoglobulin heavy chain variable region (VH) and an immunoglobulin light chain variable region (VL), wherein:
 - (a) the VH comprises VH complementarity determining regions (VH-CDRs), wherein:
 - VH-CDR1 consists of the amino acid residues of SEQ ID NO:1;
 - VH-CDR2 consists of the amino acid residues of SEQ ID NO:2; and
 - VH-CDR3 consists of the amino acid residues of SEQ ID NO:3; and
 - (b) the VL comprises VL-CDRs, wherein:
 - VL-CDR1 consists of the amino acid residues of SEQ ID NO:4;
 - VL-CDR2 consists of the amino acid residues of SEQ ID NO:5; and
 - VL-CDR3 consists of the amino acid residues of SEQ ID NO:6.
2. An anti- α -synuclein antibody for use in a method of treating abnormal accumulation or deposition of α -synuclein in the central nervous system in a human subject in need thereof, the method comprising administering intravenously to the human subject the anti- α -synuclein antibody at a dose of 3 mg per kg, 5 mg per kg, 15 mg per kg, 45 mg per kg, or 90 mg per kg of body weight of the human subject, wherein the anti- α -synuclein antibody comprises an immunoglobulin heavy chain variable region (VH) and an immunoglobulin light chain variable region (VL), wherein:
 - (a) the VH comprises VH complementarity determining regions (VH-CDRs), wherein:
 - VH-CDR1 consists of the amino acid residues of SEQ ID NO:1,
 - VH-CDR2 consists of the amino acid residues of SEQ ID NO:2, and
 - VH-CDR3 consists of the amino acid residues of SEQ ID NO:3, and
 - (b) the VL comprises VL-CDRs, wherein:
 - VL-CDR1 consists of the amino acid residues of SEQ ID NO:4,
 - VL-CDR2 consists of the amino acid residues of SEQ ID NO:5, and

VL-CDR3 consists of the amino acid residues of SEQ ID NO:6.

3. A sterile composition comprising a fixed dose of 210 mg, 225 mg, 250 mg, 350 mg, 375 mg, 1050 mg, 1125 mg, 1250 mg, 3150 mg, 3375 mg, 3500 mg, 6300 mg, or 6750 mg of an anti- α -synuclein antibody together with pharmaceutically acceptable carrier, wherein the anti- α -synuclein antibody comprises an immunoglobulin heavy chain variable region (VH) and an immunoglobulin light chain variable region (VL), wherein:
 - (a) the VH comprises VH complementarity determining regions (VH-CDRs), wherein:

VH-CDR1 consists of the amino acid residues of SEQ ID NO:1;

VH-CDR2 consists of the amino acid residues of SEQ ID NO:2; and

VH-CDR3 consists of the amino acid residues of SEQ ID NO:3, and
 - (b) the VL comprises VL-CDRs, wherein:

VL-CDR1 consists of the amino acid residues of SEQ ID NO:4,

VL-CDR2 consists of the amino acid residues of SEQ ID NO:5, and

VL-CDR3 consists of the amino acid residues of SEQ ID NO:6.
4. The sterile composition of claim 3, wherein
 - (a) the sterile composition is provided in a vial; or
 - (b) the sterile composition is provided in a syringe or pump adapted for intravenous administration of the anti- α -synuclein antibody.
5. An anti- α -synuclein antibody for use in a method of treating a synucleinopathy in a human subject in need thereof, the method comprising administering intravenously to the human subject a fixed dose of 210 mg, 225 mg, 250 mg, 350 mg, 375 mg, 1050 mg, 1125 mg, 1250 mg, 3150 mg, 3375 mg, 3500 mg, 6300 mg, or 6750 mg of the anti- α -synuclein antibody, wherein the anti- α -synuclein antibody comprises an immunoglobulin heavy chain variable region (VH) and an immunoglobulin light chain variable region (VL), wherein:
 - (a) the VH comprises VH complementarity determining regions (VH-CDRs), wherein:

VH-CDR1 consists of the amino acid residues of SEQ ID NO:1,

VH-CDR2 consists of the amino acid residues of SEQ ID NO:2, and

VH-CDR3 consists of the amino acid residues of SEQ ID NO:3, and
 - (b) the VL comprises VL-CDRs, wherein:

VL-CDR1 consists of the amino acid residues of SEQ ID NO:4,

VL-CDR2 consists of the amino acid residues of SEQ ID NO:5, and

VL-CDR3 consists of the amino acid residues of SEQ ID NO:6.

6. An anti- α -synuclein antibody for use in a method of treating abnormal accumulation or deposition of α -synuclein in the central nervous system in a human subject in need thereof, the method comprising administering intravenously to the human subject a fixed dose of 210 mg, 225 mg, 250 mg, 350 mg, 375 mg, 1050 mg, 1125 mg, 1250 mg, 3150 mg, 3375 mg, 3500 mg, 6300 mg, or 6750 mg of the anti- α -synuclein antibody, wherein the anti- α -synuclein antibody comprises an immunoglobulin heavy chain variable region (VH) and an immunoglobulin light chain variable region (VL), wherein:

- (a) the VH comprises VH complementarity determining regions (VH-CDRs), wherein:

VH-CDR1 consists of the amino acid residues of SEQ ID NO: 1;

VH-CDR2 consists of the amino acid residues of SEQ ID NO:2; and

VH-CDR3 consists of the amino acid residues of SEQ ID NO:3; and

- (b) the VL comprises VL-CDRs, wherein:

VL-CDR1 consists of the amino acid residues of SEQ ID NO:4;

VL-CDR2 consists of the amino acid residues of SEQ ID NO:5; and

VL-CDR3 consists of the amino acid residues of SEQ ID NO:6.

7. The anti- α -synuclein antibody for use in the method of claim 1 or claim 2, the sterile composition of claim 3 or claim 4, or the anti- α -synuclein antibody for use in the method of claim 5 or claim 6, wherein

- (a) the VH consists of the amino acid sequence set forth in SEQ ID NO:8;

- (b) the VL consists of the amino acid sequence set forth in SEQ ID NO:9; or

- (c) the VH consists of the amino acid sequence set forth in SEQ ID NO:8 and the VL consists of the amino acid sequence set forth in SEQ ID NO:9.

8. The anti- α -synuclein antibody for use in the method of claim 1 or claim 2, the sterile composition of claim 3 or claim 4, or the anti- α -synuclein antibody for use in the method of any one of claims 5 to 7, wherein

- (a) the antibody comprises a human IgG1 heavy chain constant region; or

- (b) the antibody comprises a human lambda light chain constant region.
9. The anti- α -synuclein antibody for use in the method of claim 1 or claim 2, the sterile composition of claim 3 or claim 4, or the anti- α -synuclein antibody for use in the method of claim 5 or claim 6, wherein the antibody comprises a heavy chain and a light chain, wherein the heavy chain consists of the amino acid sequence set forth in SEQ ID NO:10 and the light chain consists of the amino acid sequence set forth in SEQ ID NO:11.
 10. An anti- α -synuclein antibody for use in a method of treating a synucleinopathy in a human subject in need thereof, the method comprising administering intravenously to the human subject the fixed dose of the anti- α -synuclein antibody from the sterile composition of any one of claims 3, 4, or 7 to 9.
 11. An anti- α -synuclein antibody for use in a method of treating abnormal accumulation or deposition of α -synuclein in the central nervous system in a human subject in need thereof, the method comprising administering intravenously to the human subject the fixed dose of the anti- α -synuclein antibody from the sterile composition of any one of claims 3, 4, or 7 to 9.
 12. The anti- α -synuclein antibody for use in the method of any one of claims 2, 6 or 11, wherein the human subject has been identified as having abnormal accumulation or deposition of α -synuclein in the central nervous system.
 13. The anti- α -synuclein antibody for use in the method of any one of claims 1, 2, or 5 to 12, wherein the anti- α -synuclein antibody is administered every 4 weeks, every 3 weeks, every 2 weeks, or every week.
 14. The anti- α -synuclein antibody for use in the method of any one of claims 10 to 12, wherein a fixed dose of 210 mg, 225 mg, 250 mg, 350 mg, 375 mg, 1050 mg, 1125 mg, 1250 mg, 3150 mg, 3375 mg, 3500 mg, 6300 mg, or 6750 mg is administered every 4 weeks.
 15. The anti- α -synuclein antibody for use in the method of any one of claims 1, 2, 7 to 9, or 12, wherein
 - (a) 3 mg per kg of the anti- α -synuclein antibody is administered every 4 weeks;
 - (b) 5 mg per kg of the anti- α -synuclein antibody is administered every 4 weeks;
 - (c) 15 mg per kg of the anti- α -synuclein antibody is administered every 4 weeks;
 - (d) 45 mg per kg of the anti- α -synuclein antibody is administered every 4 weeks; or

- (e) 90 mg per kg of the anti- α -synuclein antibody is administered every 4 weeks.
16. The anti- α -synuclein antibody for use in the method of any one of claims 1, 2, or 7 to 15, wherein
- (a) the human subject is administered at least 2 doses of the anti- α -synuclein antibody;
or
 - (b) the human subject is administered at least 12 doses of the anti- α -synuclein antibody.
17. The sterile composition of any one of claims 3, 4, or 7 to 9, or the anti- α -synuclein antibody for use in the method of any one of claims 5 to 14, or 16, wherein the fixed dose is
- (a) 250 mg of the anti- α -synuclein antibody;
 - (b) 1250 mg of the anti- α -synuclein antibody; or
 - (c) 3500 mg of the anti- α -synuclein antibody.
18. The anti- α -synuclein antibody for use in the method of any of the preceding claims, wherein the synucleinopathy is Parkinson's disease (PD), Parkinson's disease dementia (PDD), dementia with Lewy bodies (DLB), the Lewy body variant of Alzheimer's disease (LBVAD), multiple systems atrophy (MSA), pure autonomic failure (PAF), or neurodegeneration with brain iron accumulation type-1 (NBIA-I), preferably wherein the synucleinopathy is Parkinson's disease.