

We claim:

1. An isolated antibody comprising:
 - a heavy chain variable region comprising the following CDRs:
 - i. CDR1 having the amino acid sequence of SEQ ID NO:12;
 - ii. CDR2 having the amino acid sequence of SEQ ID NO:13; and
 - iii. CDR3 having the amino acid sequence of SEQ ID NO:14; and
 - a light chain variable region comprising the following CDRs:
 - i. CDR1 having the amino acid sequence of SEQ ID NO:15;
 - ii. CDR2 having the amino acid sequence of SEQ ID NO:16; and
 - iii. CDR3 having the amino acid sequence of SEQ ID NO:17;wherein the antibody binds to human α -synuclein (SEQ ID NO:1).
2. The isolated antibody of claim 1, wherein the antibody binds to at least one or more of amino acid residues 123-128 of SEQ ID NO: 1.
3. The isolated antibody of any of the preceding claims, wherein the antibody comprises heavy and light chain variable region sequences which are at least 95% identical to the amino acid sequences set forth in SEQ ID NOs: 18 and 19, respectively.
4. The isolated antibody of any of the preceding claims, wherein the antibody is selected from the group consisting of an IgG1, an IgG2, an IgG3, an IgG4, and a variant thereof.
5. The isolated antibody of any of the preceding claims, wherein the antibody comprises an Fc domain comprising the amino acid sequence set forth in SEQ ID NO: 119.
6. The isolated antibody of any of the preceding claims, wherein the antibody comprises heavy and light chain sequences which are at least 95% identical to the amino acid sequences set forth in SEQ ID NOs: 20 and 21, respectively.
7. The isolated antibody of any of the preceding claims, wherein the antibody is a chimeric, humanized, or human antibody.

8. An isolated bispecific antibody comprising the isolated antibody of any of the preceding claims.
9. A nucleic acid molecule encoding the heavy and/or light chain variable region of the isolated antibody of any of the preceding claims.
10. An expression vector comprising the nucleic acid molecule of claim 9.
11. A cell transformed with the expression vector of claim 10.
12. An immunoconjugate comprising the isolated antibody of any of claims 1-8, linked to a moiety.
13. A composition comprising the isolated antibody or immunoconjugate of any of claims 1-8 and 12, and a pharmaceutically acceptable carrier.
14. A method of preparing an anti- α -synuclein antibody comprising:
culturing a host cell comprising the expression vector of claim 10, wherein the antibody is expressed; and
isolating the antibody from the cell.
15. A method of inhibiting the generation of insoluble serine-129 phosphorylated α -synuclein aggregates in a cell comprising contacting the cell with an effective amount of the isolated antibody, immunoconjugate, or composition of any of claims 1-8, 12, and 13.
16. Use of the isolated antibody, immunoconjugate, or composition of any of claims 1-8, 12, and 13 in the manufacture of a medicament for treating a disease or lessening the severity of a disease characterized by the presence of Lewy bodies or pathological aggregates of α -synuclein in neurons and/or glia, wherein an effective amount of the antibody, immunoconjugate, or composition is to be administered to a subject with the disease.
17. The use of claim 16, wherein the disease is Parkinson's disease, Parkinson's disease dementia, dementia with Lewy bodies, Lewy body disease, multiple system atrophy, or pure autonomic failure.
18. The use of claim 16 or 17, wherein one or more additional therapeutic agents is to be administered.

19. A method for detecting α -synuclein in a sample comprising contacting the sample with the isolated antibody or immunoconjugate of any of claims 1-8 and 12 under conditions that allow for formation of a complex between the antibody or immunoconjugate and α -synuclein, and detecting the formation of the complex.
20. An isolated antibody comprising a heavy chain variable region comprising the amino acid sequence set forth in SEQ ID NO:18 and a light chain variable region comprising the amino acid sequence set forth in SEQ ID NO:19, wherein the antibody binds to human α -synuclein (SEQ ID NO:1).
21. An isolated antibody comprising a heavy chain comprising the amino acid sequence set forth in SEQ ID NO:20 and a light chain comprising the amino acid sequence set forth in SEQ ID NO:21, wherein the antibody binds to human α -synuclein (SEQ ID NO:1).
22. A method of inhibiting the generation of insoluble serine-129 phosphorylated α -synuclein aggregates in a cell comprising contacting the cell with an effective amount of the isolated antibody of claim 20.
23. Use of the isolated antibody of claim 20 in the manufacture of a medicament for treating a disease or lessening the severity of a disease characterized by the presence of Lewy bodies or pathological aggregates of α -synuclein in neurons and/or glia, wherein an effective amount of the isolated antibody is to be administered to a subject with the disease.
24. The use of claim 23, wherein the disease is Parkinson's disease, Parkinson's disease dementia, dementia with Lewy bodies, Lewy body disease, multiple system atrophy, or pure autonomic failure.
25. A method of inhibiting the generation of insoluble serine-129 phosphorylated α -synuclein aggregates in a cell comprising contacting the cell with an effective amount of the isolated antibody of claim 21.

26. Use of the isolated antibody of claim 21 in the manufacture of a medicament for treating a disease or lessening the severity of a disease characterized by the presence of Lewy bodies or pathological aggregates of α -synuclein in neurons and/or glia, wherein an effective amount of the isolated antibody is to be administered to a subject with the disease.

27. The use of claim 26, wherein the disease is Parkinson's disease, Parkinson's disease dementia, dementia with Lewy bodies, Lewy body disease, multiple system atrophy, or pure autonomic failure.

28. An isolated antibody comprising two heavy chains and two light chains, wherein each of the heavy chains comprises the amino acid sequence set forth in SEQ ID NO:20 and each of the light chains comprises the amino acid sequence set forth in SEQ ID NO:21, wherein the antibody binds to human α -synuclein (SEQ ID NO:1).