Table 1

Clone ID	Method	Affinity – K_D	95% CI
asyn0087	Octet	> 1.0 µM	n/a
aslo0452 ngl-1	Octet	1.1 nM	0.3-2.3 nM
aslo0452 ngl-3	KinExa	74 pM	15-177 pM
aslo0452 ngl-3	Octet	106 pM	10-292 pM
aslo0543	KinExa	108 pM	34-223 pM
aslo0543	Octet	113 pM	5-333 pM

The invention claimed is:

1. An antibody, or antigen-binding fragment thereof that binds to human α-synuciein, wherein the antibody or antigen-binding fragment thereof comprises:

a) three heavy chain CDRs having sequences:

(i) H-CDR1 of SEQ ID NO: 5,

(ii) H-CDR2 of SEQ ID NO: 15; and

(iii) H-CDR3 of SEQ ID NO: 16, and

b) three light chain CDRs having sequences:

(i) L-CDR1 of SEQ ID NO: 20,

(ii) L-CDR2 of SEQ ID NO: 10; and

(iii) L-CDR3 of SEQ ID NO: 21.

2. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof binds to human α-synuclein with a K_D of less than 500 pM.

3. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof reduces cell to cell transfer of α-synuclein in vivo.

4. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof binds human α-synuclein but not human β-synuclein or human ɣ-synuclein.

5. The antibody or antigen-binding fragment thereof of claim 2, wherein the antibody or antigen-binding fragment thereof binds to human, rat and cynomolgus α-synuclein.

6. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a variable heavy chain comprising an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO: 14.

7. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a variable heavy chain comprising an amino acid sequence that is at least 95% identical to the amino acid sequence of SEQ ID NO: 14.

8. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a variable heavy chain comprising the amino acid sequence of SEQ ID NO: 14.

9. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a variable light chain comprising an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ. ID NO: 19.

10. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a variable light chain comprising an amino acid sequence that is at least 95% identical to the amino acid sequence of SEQ ID NO: 19.

11. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a variable light chain comprising the amino acid sequence of SEQ ID NO: 19.

12. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a heavy chain comprising an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO: 12.

13. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 12.

14. The antibody or antigen-binding fragment thereof of claim 1, wherein the

antibody or antigen-binding fragment thereof comprises a light chain comprising an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO: 17.

15. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a light chain comprising the amino acid sequence of SEQ ID NO: 17.

16. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a variable heavy chain comprising an amino acid sequence that is at least 95% identical to the amino acid sequence of SEQ ID NO: 14, and wherein the antibody or antigen-binding fragment thereof further comprises a variable light chain comprising an amino acid sequence that is at least 95% identical to the amino acid sequence of SEQ ID NO: 19.

17. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding, fragment thereof comprises a variable heavy chain comprising the amino acid sequence of SEQ ID NO: 14, and wherein the antibody or antigen-binding fragment thereof further comprises a variable light chain comprising the amino acid sequence of SEQ ID NO: 19.

18. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 12 and, wherein the antibody or antigen-binding fragment thereof further comprises a light chain comprising the amino acid sequence of SEQ ID NO: 17.

19. The antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof is an antibody.

20. The antibody of claim 1, wherein the antibody comprises a L234F/L235E/P331S triple mutation in the Fc region.

21. A pharmaceutical composition comprising an antibody, or antigen-binding fragment thereof, according to claim 1, and a pharmaceutically acceptable excipient.

22. An isolated nucleic acid molecule encoding the antibody, or antigen-binding, fragment thereof, according to claim 1.

23. The isolated nucleic acid molecule of claim 22, wherein the nucleic acid molecule comprises a nucleotide sequence that is at least 90% identical to the nucleotide sequence of SEQ ID NO: 13.

24. The isolated nucleic acid molecule of claim 22, wherein the nucleic acid molecule comprises a nucleotide sequence that is at least 90% identical to the nucleotide sequence of SEQ ID NO: 18.

25. A host cell comprising a vector comprising the nucleic acid molecule of claim 22.