WHAT IS CLAIMED IS:

1. An antibody or fragment thereof that that specifically binds to Aβ peptide, comprising a heavy chain variable region comprising heavy chain CDR1, CDR2 and CDR3 and a light chain variable region comprising light chain CDR1, CDR2 and CDR3, wherein the heavy chain CDR1, CDR2 and CDR3 and the light chain CDR1, CDR2 and CDR3 are as shown for one of the antibodies in Table 1A and Table 1B.

2. The antibody or fragment thereof of claim 1, wherein the heavy chain variable region is as shown for one of the antibodies in Table 1A and Table 1B.

3. The antibody or fragment thereof of claim 1, wherein the light chain variable region is as shown for one of the antibodies in Table 1A and Table 1B.

4. An antibody or fragment thereof that that specifically binds to Aβ peptide, comprising a heavy chain variable region comprising heavy chain CDR1, CDR2 and CDR3 and a light chain variable region comprising light chain CDR1, CDR2 and CDR3, wherein

heavy chain CDR1 comprises one of SEQ ID NO: 16, 19, or 20,

heavy chain CDR2 comprises one of SEQ ID NO: 20, 21, 22 or 23,

heavy chain CDR3 comprises one of SEQ ID NO: 18, 24, or 25,~~,~~

light chain CDR1 comprises one of SEQ ID NO: 26, 29, 31, or 32,

light chain CDR2 comprises one of SEQ ID NO: 33, 34, 35 or 36, and

light chain CDR3 comprises one of SEQ ID NO: 28, 38 or 39.

5. The antibody or fragment thereof of claim 1 or claim 4, wherein the heavy chain variable region, excluding the CDRs, is at least 95% identical an amino acid sequence selected from SEQ ID NO: 3, 4, 5, 6, and 7 , and the light chain variable region, excluding the CDRs, is at least 95% identical an amino acid sequence selected from SEQ ID NO: 8, 9, 10, 11, 12, 13, 14, and 15.

6. The antibody or fragment thereof of claim 5, wherein heavy chain variable region, excluding the CDRs is at least 98% identical to an amino acid sequence selected from SEQ ID NOs: 3, 4, 5, 6, and 7, and the light chain variable region, excluding the CDRs, is at least

98% identical to an amino acid sequence selected from SEQ ID NO: 8, 9, 10, 11, 12, 13, 14 and 15.

7. The antibody or fragment thereof of claim 6, wherein heavy chain variable region is selected from SEQ ID NOs: 3, 4, 5, 6, and 7, and the light chain variable region is selected from SEQ ID NO: 8, 9, 10, 11, 12, 13, 14 and 15.

8. An antibody or fragment thereof that that specifically binds to Aβ peptide, comprising a heavy chain variable region comprising heavy chain CDR1, CDR2 and CDR3 and a light chain variable region comprising light chain CDR1, CDR2 and CDR3, wherein:

heavy chain CDR1 comprises amino acid sequence GFTFSNX$_1$GMS, wherein X$_1$ is Y or F (SEQ ID NO: 88);

heavy chain CDR2 comprises amino acid sequence SX$_1$RSGSGRTYYSDNVKG, wherein is X$_1$ is I or V (SEQ ID NO: 89);

heavy chain CDR3 comprises amino acid sequence YDHYX$_1$GX$_2$SDY, wherein X$_1$ is S or T and X$_2$ is S or T (SEQ ID NO: 90);

light chain CDR1 comprises amino acid sequence KSSQSLLDYDGKTYLN (SEQ ID NO: 91);

light chain CDR2 comprises amino acid sequence X$_1$VX$_2$NRDX$_3$, wherein X$_1$ = K or R, X$_2$ is S or T, and X$_3$ is S or T (SEQ ID NO: 92).

light chain CDR3 comprises amino acid sequence WQGTHFPRX$_1$, wherein X$_1$ is S or T (SEQ ID NO: 93).

9. The antibody or fragment thereof of claim 8, wherein light chain CDR3 comprises WQGTHFPRX$_1$FX$_2$, wherein X$_1$ is S or T and X$_2$ is F or Y (SEQ ID NO: 94).

10. An antibody or fragment thereof that that specifically binds to Aβ peptide, comprising a heavy chain variable region comprising heavy chain CDR1, CDR2 and CDR3 and a light chain variable region comprising light chain CDR1, CDR2 and CDR3, wherein:

heavy chain CDR1 comprises amino acid sequence GFTFX$_1$NX$_2$GMS, wherein X$_1$ is S or A, and X$_2$ is Y or F (SEQ ID NO: 95);

heavy chain CDR2 comprises amino acid sequence SX$_1$RSGX$_2$X$_3$RTYYSDNVKG, wherein is X$_1$ is I or V, X$_2$ is S or G and X$_3$ is S or G (SEQ ID NO: 96);

heavy chain CDR3 comprises amino acid sequence YDHYX$_1$GX$_2$SDY, wherein X$_1$ is S or T and X$_2$ is S or T (SEQ ID NO: 90);

light chain CDR1 comprises amino acid sequence X$_1$SSQSLX$_2$DX$_3$DGKTYLN, wherein X$_1$ is K or R, X$_2$ is V, M or L, and X$_3$ is Y, T or S (SEQ ID NO: 97);

light chain CDR2 comprises amino acid sequence X$_1$VX$_2$NRX$_3$X$_4$, wherein X$_1$ = K or R, X$_2$ is S or T, and X$_3$ is E or D, and X$_4$ i S or T (SEQ ID NO: 98).

light chain CDR3 comprises amino acid sequence WQGX$_1$HFPRX$_2$, wherein X$_1$ is S or T, and X$_2$ is S or T (SEQ ID NO: 99).

11. The antibody or fragment thereof of claim 10, wherein light chain CDR3 comprises WQGTHFPRX$_1$FX$_2$X$_3$, wherein X$_1$ is S or T, X$_2$ is S or T and X$_3$ is F or Y (SEQ ID NO: 100).

12. The antibody or fragment thereof of one of claims 1 - 11, wherein the antibody is humanized.

13. The antibody or fragment thereof of one of claims 1 - 11 where the antibody is human IgG1.

14. The antibody or fragment thereof of one of claims 1 to 11, wherein the antibody is a full antibody, a chimeric antibody, a CDR-grafted antibody, or a recombinant antibody.

15. The antibody or fragment thereof of one of claims 1 to 11 wherein the fragment is a Fab, Fab′, F(ab′)2, Fabc, or Fv.

16. The antibody or fragment thereof of one of claims 1 to 11, further comprising heavy chain constant region comprising an amino acid sequence at least 95% identical to SEQ ID NO:40.

17. The antibody or fragment thereof of one of claims 1 to 11, further comprising light chain constant region comprising an amino acid sequence at least 95% identical to SEQ ID NO:41.

18. The antibody or fragment thereof of one of claims 1 to 17, wherein the antibody specifically binds to an epitope having an amino acid sequence including three or more amino acid positions from amino acids 1-7 of Aβ.

19. A nucleic acid encoding the heavy chain and/or light chain of an antibody or fragment as described in any one of claims 1 to 18.

20. A pharmaceutical composition comprising the antibody or fragment thereof of one of claims 1 to 19 and pharmaceutically acceptable carrier or diluent.

21. A method of producing the antibody or fragment thereof of one of claims 1 to 18, the method comprising:

(a) culturing cells transformed with nucleic acids encoding the heavy and light chains of the antibody or fragment thereof, so that the cells secrete the antibody or fragment thereof; and

(b) purifying the antibody or fragment thereof from cell culture.

22. A method of producing a cell line producing the antibody or fragment thereof of one of claims 1 to 18, the method comprising:

(a) introducing a vector encoding heavy and light chains of the antibody or fragment thereof and a selectable marker into cells;

(b) propagating the cells under conditions to select for cells having increased copy number of the vector;

(c) isolating single cells from the selected cells; and

(d) banking cells cloned from a single cell selected based on yield of antibody or a fragment thereof.

23. The method of claim 22 further comprising propagating the cells under selective conditions and screening for cell lines naturally expressing and secreting at least 100 mg/L/10^6 cells/24 h.

24. ~~A method of preventing or treating amyloidogenic disease in a patient, comprising administering an effective dosage~~ Use of the antibody or fragment of one of claims 1 to 18 in the manufacture of a medicament for preventing or treating amyloidogenic disease in a patient ~~to the patient~~.

25. The ~~method~~ use of claim 24, wherein the amyloidogenic disease is systemic amyloidosis, Alzheimer's disease, mature onset diabetes, Parkinson's disease, Huntington's disease, fronto-temporal dementia, Down's syndrome, or mild cognitive impairment.

26. ~~A method of treating a patient diagnosed with Alzheimer's disease, the method comprising administering to a patient having the disease~~ Use of the antibody or fragment thereof of one of claims 1 to 18~~.~~ in the manufacture of a medicament for treating a patient diagnosed with Alzheimer's disease, wherein the medicament is to be administered to the having the disease in a regime effective to treat the disease.

27. ~~A method of reducing the risk or delaying the outset of Alzheimer's disease in a patient whose risk of the disease has been determined from a genetic or biochemical marker, comprising administering to a patient~~ Use of an antibody or fragment thereof of one of claims 1 to 18 in the manufacture of a medicament for reducing the risk or delaying the outset of Alzheimer's disease in a patient whose risk of the disease has been determined from a genetic or biochemical marker, wherein the medicament is to be administered to the patient in a regime effective to reduce the risk or delay the outset of the disease.

28. ~~A method for effecting improvement of cognition in a subject having a condition or disease related amyloidogenic disease, comprising administering to the subject an effective amount~~ Use of the antibody or fragment thereof of one of claims 1 to 18 in the manufacture of a medicament for effecting improvement of cognition in a subject having a condition or disease related amyloidogenic disease.

29. The ~~method~~ use of claim 28, wherein the amyloidogenic disease is systemic amyloidosis, Alzheimer's disease, mature onset diabetes, Parkinson's disease, Huntington's disease, fronto-temporal dementia, Down's syndrome, or mild cognitive impairment.

30. ~~A method of treating Down's syndrome or clinical or pre-clinical Alzheimer's disease in a human subject, comprising administering to the human subject an effective amount~~ Use of the antibody or fragment of one of claims 1 to 18 in the manufacture of a medicament for treating Down's syndrome or clinical or pre-clinical Alzheimer's disease in a human subject.

31. ~~A method to inhibit the formation of amyloid plaque in a human subject, comprising administering to the human subject an effective amount~~ Use of the antibody or fragment of one of claims 1 to 18 in the manufacture of a medicament for inhibiting the formation of amyloid plaque in a human subject.

32. ~~A method to reduce amyloid plaque in the brain of a human subject, comprising administering to the human subject an effective amount~~ Use of a humanized antibody or

fragment of one of claims 1 to 18 in the manufacture of a medicament for reducing amyloid plaque in the brain of a human subject.

33. ~~A method of inhibiting or reducing amyloid plaque in a subject having or at risk of developing an amyloidogenic disease, comprising administering to the subject an effective regime~~ Use of the antibody of any one of claims 1 to 18 in the manufacture of a medicament for inhibiting or reducing amyloid plaque in a subject having or at risk of developing an amyloidogenic disease, wherein the medicament is to be administered to the subject an effective regime thereby inhibiting or reducing amyloid plaque in the subject.

34. The ~~method~~ use of any one of claims 31 to 33, wherein the amyloid plaque comprises $A\beta_{1-42}$, pyroglutamate species of Aβ (e.g., $A\beta_{pE3-42}$), or a combination thereof.

35. ~~A method of detecting amyloid plaques in a subject having or at risk of an amyloidogenic disease, comprising administering to a subject~~ Use of an antibody or fragment thereof of any one of claims 1 to 18 in the manufacture of a medicament for detecting amyloid plaques in a subject having or at risk of an amyloidogenic disease, wherein the medicament is to be administered to the subject and ~~detecting~~ the antibody or fragment thereof bound to Aβ in the subject is to be detected.

36. The ~~method~~ use of claim 35, wherein the amyloidogenic disease is systemic amyloidosis, Alzheimer's disease, mature onset diabetes, Parkinson's disease, Huntington's disease, fronto-temporal dementia, Down's syndrome, or mild cognitive impairment.

37. The ~~method~~ use of claim 35, wherein the antibody or fragment thereof is labeled.

38. The ~~method~~ use of claim 35, wherein the antibody or fragment thereof is labeled with a fluorescent label, a paramagnetic label, or a radioactive label.

39. The ~~method~~ use of claim 38, wherein the radioactive label is to be detected using positron emission tomography (PET) or single-photon emission computed tomography (SPECT).

40. A method of measuring efficacy of treatment in a subject being treated for an amyloidogenic disease, comprising:

(a) measuring a first level of amyloid plaque in the subject prior to treatment by ~~administering~~ administration to a subject an antibody or fragment thereof of any one of

claims 1-18, and detecting a first amount of the antibody or fragment thereof bound to Aβ in the subject,

~~(b) administering the treatment to the subject,~~

(~~c~~b) measuring a second level of amyloid plaque in the subject after treatment by ~~administering~~ administration to a subject the antibody or fragment thereof, and detecting the antibody or fragment thereof bound to Aβ in the subject,

wherein the treatment is to be administered to the subject after step (a) and prior to step (b),

wherein a decrease in the level of amyloid plaque indicates a positive response to treatment.

41. A method of measuring efficacy of treatment in a subject being treated for an amyloidogenic disease, comprising:

(a) measuring a first level of amyloid plaque in the subject prior to treatment by administration ~~administering~~ to a subject an antibody or fragment thereof of any one of claims 1-18, and detecting a first amount of antibody or fragment thereof bound to Aβ in the subject,

~~(b) administering the treatment to the subject,~~

(~~c~~b) measuring a second level of amyloid plaque in the subject after treatment by ~~administering~~ administration to a subject the antibody or fragment thereof, and detecting a second amount of antibody or fragment thereof bound to Aβ in the subject,

wherein the treatment is to be administered to the subject after step (a) and prior to step (b),

wherein no change in the level of amyloid plaque or a small increase in amyloid plaque indicates a positive response to treatment.

42. ~~A method of promoting clearance of Aβ in a human subject, comprising administering to the subject an effective regime~~ Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for promoting clearance of Aβ in a human subject, wherein the medicament is to be administered to the subject in an effective regime.

43. The ~~method~~ use of claim 42, wherein the Aβ is present in the subject's brain tissue.

44. ~~A method of clearing Aβ in a human subject, comprising administering to the subject an effective regime~~ Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for clearing Aβ in a human subject, wherein the medicament is to be administered to the subject in an effective regime.

45. The ~~method~~ use of claim 44, wherein the Aβ is present in the subject's brain tissue.

46. ~~A method of reducing Aβ in a human subject, comprising administering to the subject an effective regime~~ Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for reducing Aβ in a human subject, wherein the medicament is to be administered to the subject in an effective regime.

47. The ~~method~~ use of claim 46, wherein the Aβ is present in the subject's brain tissue.

48. ~~A method of reducing Aβ accumulation or aggregation in a human subject, comprising administering to the subject an effective regime~~ Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for reducing Aβ accumulation or aggregation in a human subject, wherein the medicament is to be administered to the subject in an effective regime.

49. The ~~method~~ use of claim 48, wherein the Aβ is present in the subject's brain tissue.

50. ~~A method of inhibiting Aβ accumulation or aggregation in a human subject, comprising administering to the subject an effective regime~~Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for inhibiting Aβ accumulation or aggregation in a human subject, wherein the medicament is to be administered to the subject in an effective regime.

51. The ~~method~~ use of claim 50, wherein the Aβ is present in the subject's brain tissue.

52. ~~A method of promoting clearance of Aβ in brain tissue of a subject having or at risk of developing an amyloidogenic disease, comprising administering to the subject an effective regime~~ Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for promoting clearance of Aβ in brain tissue of a subject having or at risk of developing an amyloidogenic disease, wherein the medicament is to be administered to the subject in an effective regime, thereby promoting clearance of Aβ in brain tissue in the subject.

53. ~~A method of clearing Aβ in brain tissue of a subject having or at risk of developing an amyloidogenic disease, comprising administering to the subject an effective regime~~Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for clearing Aβ in brain tissue of a subject having or at risk of developing an amyloidogenic

disease, wherein the medicament is to be administered to the subject in an effective regime, thereby clearing Aβ in brain tissue in the subject.

54. ~~A method of reducing Aβ in brain tissue of a subject having or at risk of developing an amyloidogenic disease, comprising administering to the subject an effective regime~~ Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for reducing Aβ in brain tissue of a subject having or at risk of developing an amyloidogenic disease, wherein the medicament is to be administered to the subject in an effective regime, thereby reducing Aβ in brain tissue in the subject.

55. ~~A method of reducing Aβ accumulation or aggregation in brain tissue of a subject having or at risk of developing an amyloidogenic disease, comprising administering to the subject an effective regime~~Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for reducing Aβ accumulation or aggregation in brain tissue of a subject having or at risk of developing an amyloidogenic disease, wherein the medicament is to be administered to the subject in an effective regime, thereby reducing Aβ accumulation or aggregation in brain tissue in the subject.

56. ~~A method of inhibiting Aβ accumulation or aggregation in brain tissue of a subject having or at risk of developing an amyloidogenic disease, comprising administering to the subject an effective regime~~ Use of the antibody or fragment of any one of claims 1 to 18 in the manufacture of a medicament for inhibiting Aβ accumulation or aggregation in brain tissue of a subject having or at risk of developing an amyloidogenic disease, wherein the medicament is to be administered to the subject in an effective regime, thereby inhibiting Aβ accumulation or aggregation in brain tissue in the subject.

57. The ~~method~~ use of any one of claims 52 to 56 wherein the amyloidogenic disease is systemic amyloidosis, Alzheimer's disease, mature onset diabetes, Parkinson's disease, Huntington's disease, fronto-temporal dementia, Down's syndrome, or mild cognitive impairment.

58. The use~~method~~ of any one of claims 42 to 57, wherein the Aβ comprises $A\beta_{1\text{-}42}$, pyroglutamate species of Aβ (e.g., $A\beta_{pE3\text{-}42}$), or a combination thereof.

59. The ~~method~~ use of any one of claims 24-58, wherein the antibody or fragment is to be administered by peripheral administration.

60. The ~~method~~ use of claim 59, wherein the peripheral administration is intravenous or subcutaneous.

61. The antibody or fragment of any one of claims 1 to 18 for use in therapy.