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WE CLAIM:

1. An antibody that binds human N3pGlu A β , comprising a light chain variable region (LCVR) and a heavy chain variable region (HCVR),
5 wherein the LCVR comprises LCDR1 having the amino acid sequence of SEQ ID NO: 4 or 5, LCDR2 having the amino acid sequence of SEQ ID NO: 6 or 7, and LCDR3 having the amino acid sequence of SEQ ID NO: 8, and wherein the HCVR comprises HCDR1 having the amino acid sequence of SEQ ID NO: 1, HCDR2 having the amino acid sequence of
10 SEQ ID NO: 2, and HCDR3 having the amino acid sequence of SEQ ID NO: 3.
2. The antibody of Claim 1, wherein LCDR1 has the amino acid sequence of SEQ ID NO: 4 and LCDR2 has the amino acid sequence of SEQ ID NO: 6.
- 15 3. The antibody of Claim 1, wherein LCDR1 has the amino acid sequence of SEQ ID NO: 5 and LCDR2 has the amino acid sequence of SEQ ID NO: 7.
4. The antibody of any one of Claims 1-3, wherein the LCVR has the amino acid sequence of SEQ ID NO: 10 or 11, and the HCVR has the amino acid sequence of SEQ ID NO: 9.
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5. The antibody of Claim 4, comprising a LCVR having the amino acid sequence of SEQ ID NO: 10, and a HCVR having the amino acid sequence of SEQ ID NO: 9.
6. The antibody of Claim 4, comprising a LCVR having the amino acid
25 sequence of SEQ ID NO: 11, and a HCVR having the amino acid sequence of SEQ ID NO: 9.
7. The antibody of any one of Claims 1-6, comprising a light chain (LC) having the amino acid sequence of SEQ ID NO: 13 or 14, and a heavy chain (HC) having the amino acid sequence of SEQ ID NO: 12.
- 30 8. The antibody of Claim 7, comprising a LC having the amino acid sequence of SEQ ID NO: 13 and a HC having the amino acid sequence of SEQ ID NO: 12.

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9. The antibody of Claim 7, comprising a LC having the amino acid sequence of SEQ ID NO: 14 and a HC having the amino acid sequence of SEQ ID NO: 12.
10. The antibody of any one of Claims 1-9, comprising two LCs and two HCs, wherein the amino acid sequence of each LC is SEQ ID NO: 13 or 14, and the amino acid sequence of each HC is SEQ ID NO: 12.
11. The antibody of Claim 10, wherein the amino acid sequence of each LC is SEQ ID NO:13, and the amino acid sequence of each HC is SEQ ID NO: 12.
12. The antibody of Claim 10, wherein the amino acid sequence of each LC is SEQ ID NO:14, and the amino acid sequence of each HC is SEQ ID NO: 12.
13. A pharmaceutical composition comprising the antibody of any one of Claims 1 to 12 and one or more pharmaceutically acceptable carriers, diluents or excipients.
14. A method of treating a patient having a condition characterized by deposition of A β , comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.
15. The method of Claim 14, wherein the condition is selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
16. The method of Claim 14, wherein the condition is selected from prodromal AD, mild AD, moderate AD, and severe AD.
17. The method of Claim 14, wherein the patient has the PSEN1 E280A genetic mutation.
18. The method of Claim 14, wherein the patient has a genetic mutation that causes autosomal-dominant Alzheimer's disease.
19. A method of treating memory loss or cognitive decline in a patient having a condition characterized by deposition of A β , comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.
20. The method of Claim 19, wherein the patient has the PSEN1 E280A genetic mutation.

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21. The method of Claim 19, wherein the patient has a genetic mutation that causes autosomal-dominant Alzheimer's disease.
22. A method of preventing memory loss or cognitive decline in a patient having the PSEN1 E280A genetic mutation, comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.
23. A method of preventing memory loss or cognitive decline in a patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease., comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.
24. A method of treating an asymptomatic patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease, comprising administering to the patient a pharmaceutical composition comprising the antibody of any one of Claims 1 to 12.
25. In another particular embodiment, the present invention provides a method of preventing memory loss or cognitive decline in an asymptomatic patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease, comprising administering to the patient a pharmaceutical composition comprising the antibody of any one of Claims 1 to 12.
26. In another particular embodiment, the present invention provides a method of slowing cognitive decline in an asymptomatic patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease, comprising administering to the patient a pharmaceutical composition comprising the antibody of any one of Claims 1 to 12.
27. A method of preventing a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA in a patient, comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.
28. A method of preventing a condition selected from prodromal AD, mild AD, moderate AD, and severe AD in a patient, comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.

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29. A method of slowing cognitive or functional decline in a patient having a condition characterized by deposition of A β , comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.
- 5 30. The method of Claim 29, wherein the condition is selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
31. The method of Claim 29, wherein the condition is selected from prodromal AD, mild AD, moderate AD, and severe AD.
- 10 32. A method of reducing brain A β amyloid plaque load in a patient having a condition characterized by deposition of A β , comprising administering to the patient an effective amount of the antibody of any one of Claims 1 to 12.
33. The method of Claim 32, wherein the condition is selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
- 15 34. The method of Claim 32, wherein the condition is selected from prodromal AD, mild AD, moderate AD or severe AD.
35. The antibody of any one of Claims 1 to 12 for use in therapy.
36. The antibody of any one of Claims 1 to 12 for use in the treatment of a condition characterized by deposition of A β .
- 20 37. The antibody of any one of Claims 1 to 12 for use in the treatment of a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
38. The antibody of any one of Claims 1 to 12 for use in the treatment of a condition selected from prodromal AD, mild AD, moderate AD, and
- 25 severe AD.
39. The antibody of any one of Claims 1 to 12 for use in slowing cognitive or functional decline in a patient diagnosed with a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
- 30 40. The antibody of any one of Claims 1 to 12 for use in slowing cognitive or functional decline in a patient diagnosed with a condition selected from prodromal AD, mild AD, moderate AD, and severe AD.

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41. The antibody of any one of Claims 1 to 12 for use in reducing brain A β amyloid plaque load.
42. The antibody of any one of Claims 1 to 12 for use in treating a condition characterized by deposition of A β in a patient having the PSEN1 E280A genetic mutation.
- 5 43. The antibody of any one of Claims 1 to 12 for use in treating a condition characterized by deposition of A β in a patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease.
- 10 44. The antibody of any one of Claims 1 to 12 for use in treating memory loss or cognitive decline in a patient having the PSEN1 E280A genetic mutation.
45. The antibody of any one of Claims 1 to 12 for use in treating memory loss or cognitive decline in a patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease.
- 15 46. The antibody of any one of Claims 1 to 12 for use in preventing memory loss or cognitive decline in a patient having the PSEN1 E280A genetic mutation.
47. The antibody of any one of Claims 1 to 12 for use in preventing memory loss or cognitive decline in a patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease.
- 20 48. The antibody of any one of Claims 1 to 12 for use in the prevention of a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
49. The antibody of any one of Claims 1 to 12 for use in the prevention of a condition selected from prodromal AD, mild AD, moderate AD, and severe AD.
- 25 50. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for the treatment of a condition characterized by deposition of A β .
- 30 51. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for the treatment of a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.

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52. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for the treatment of a condition selected from prodromal AD, mild AD, moderate AD, and severe AD.
53. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for slowing cognitive or functional decline in a patient diagnosed with a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
54. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for slowing cognitive or functional decline in a patient diagnosed with a condition selected from prodromal AD, mild AD, moderate AD, and severe AD.
55. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for reducing brain A β amyloid plaque load.
56. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for treating a condition characterized by deposition of A β in a patient having the PSEN1 E280A genetic mutation.
57. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for treating a condition characterized by deposition of A β in a patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease.
58. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for treating memory loss or cognitive decline in a patient having the PSEN1 E280A genetic mutation.
59. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for treating memory loss or cognitive decline in a patient having a genetic mutation that causes autosomal-dominant Alzheimer's disease.
60. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for preventing memory loss or cognitive decline in a patient having the PSEN1 E280A genetic mutation.
61. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for preventing memory loss or cognitive decline in a patient

having a genetic mutation that causes autosomal-dominant Alzheimer's disease.

- 5 62. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for preventing a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA.
63. Use of the antibody of any one of Claims 1 to 12 in the manufacture of a medicament for preventing a condition selected from prodromal AD, mild AD, moderate AD, and severe AD.
- 10 64. A pharmaceutical composition for use in treating a condition characterized by deposition of A β , comprising an effective amount of the antibody of any one of Claims 1 to 12.
65. A pharmaceutical composition for use in treating a condition selected from clinical or pre-clinical AD, Down's syndrome, and clinical or pre-clinical CAA, comprising an effective amount of the antibody of any one of
- 15 Claims 1 to 12.
66. A pharmaceutical composition for use in treating a condition selected from prodromal AD, mild AD, moderate AD, and severe AD, comprising an effective amount of the antibody of any one of Claims 1 to 12.
- 20 67. A DNA molecule comprising a polynucleotide that encodes the antibody heavy chain given by the amino acid sequence of SEQ ID NO:12.
68. The DNA molecule of Claim 67, wherein the amino acid sequence of the polynucleotide is SEQ ID NO:15.
69. A DNA molecule comprising a polynucleotide that encodes the antibody light chain given by the amino acid sequence of SEQ ID NO:13.
- 25 70. The DNA molecule of Claim 69, wherein the amino acid sequence of the polynucleotide is SEQ ID NO:16.
71. A DNA molecule comprising a polynucleotide that encodes the antibody light chain given by the amino acid sequence of SEQ ID NO:14.
72. The DNA molecule of Claim 71, wherein the amino acid sequence of the
- 30 polynucleotide is SEQ ID NO:17.
73. A DNA molecule comprising a polynucleotide sequence that encodes the antibody heavy chain having the amino acid sequence of SEQ ID NO: 12

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and a polynucleotide sequence that encodes the antibody light chain having the amino acid sequence of SEQ ID NO: 13 or 14.

- 5 74. The DNA molecule of Claim 73, wherein the polynucleotide sequence that encodes the antibody heavy chain is SEQ ID NO:15, and the polynucleotide sequence that encodes the antibody light chain is SEQ ID NO:16 or 17.
- 10 75. A mammalian cell transformed with the DNA molecule of Claim 67 and the DNA molecule of Claim 69 or Claim 71, wherein the transformed cell is capable of expressing an antibody comprising two heavy chains and two light chains, wherein the amino acid sequence of each heavy chain is given by SEQ ID NO:12 and the amino acid sequence of each light chain is given by SEQ ID NO:13 or 14.
- 15 76. A mammalian cell transformed with the DNA molecule of Claim 73, wherein the transformed cell is capable of expressing an antibody comprising two heavy chains and two light chains, wherein the amino acid sequence of each heavy chain is given by SEQ ID NO:12 and the amino acid sequence of each light chain is given by SEQ ID NO:13 or 14.
77. The cell of Claim 75 or 76, wherein the cell is a CHO cell.
- 20 78. A process for producing an antibody, wherein the amino sequence of each of the two HCs is SEQ ID NO: 12, and the amino acid sequence of each of the two LCs is SEQ ID NO: 13 or 14, and wherein the process comprises: a) cultivating the mammalian cell of Claim 75 or 76 under conditions such that the antibody is expressed, and b) recovering the expressed antibody.
- 25 79. An antibody obtainable by the process of Claim 78.