CLAIMS:

1. A humanized antibody, or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising (i) human- or primate-derived framework regions, (ii) a heavy chain variable region (HCVR) comprising HCVR complementarity determining region 1 (CDR1) comprising the amino acid sequence of SEQ ID NO: 1, HCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 2; and HCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 3, and (iii) a light chain variable region (LCVR) comprising LCVR CDR1 comprising the amino acid sequence of SEQ ID NO: 4, LCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 5 or the amino acid sequence RVSNRFS or KVSSRFS, and LCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 6.

2. The humanized antibody, or an active fragment thereof, according to claim 1, wherein the LCVR CDR2 comprises the amino acid sequence of SEQ ID NO: 5.

3. The humanized antibody, or active fragment thereof, according to claim 1, wherein the LCVR CDR2 comprises the amino acid sequence RVSNRFS or KVSSRFS.

4. The humanized antibody or active fragment thereof according to claim 1, comprising framework regions, wherein the sequences of said framework regions are human germline V_H sequences of KABAT subgroup V_HIII.

5. The humanized antibody or active fragment thereof according to claim 1, wherein at least one of the amino acids of the framework regions is changed through a substitution to an amino acid from the corresponding region of murine humanized antibody ACI-01 -Ab7C2 or an amino acid conservative thereto.

6. The humanized antibody or active fragment thereof according to claim 5, wherein the Trp in Kabat position 47 in the framework regions of the Heavy Chain Variable Region is replaced by the amino acid Leu.

7. The humanized antibody or active fragment thereof according to claim 5, wherein the amino acid in Kabat position 94 in the framework regions of the Heavy Chain Variable Region is Ser.

8. The humanized antibody or active fragment thereof according to claim 5, wherein (a) the amino acid in Kabat position 47 of the framework regions of the Heavy Chain Variable Region is Leu; and (b) the amino acid in Kabat position 94 in the framework regions of the Heavy Chain Variable Region is Ser.

9. The humanized antibody or active fragment thereof according to claim 5, wherein (a) the amino acid in Kabat position 87 in the framework regions of the Light Chain Variable Region is Phe or Tyr; and/or (b) the amino acid in Kabat position 45 is Lys or Gln.

10. The humanized antibody or active fragment thereof according to claim 5, wherein: (a) the amino acid in Kabat position 47 of the framework regions of the Heavy Chain Variable Region is Leu; and (b) the amino acid in Kabat position 94 in the framework regions of the Heavy Chain Variable Region is Ser; and (c) the amino acid in Kabat position 87 in the framework regions of the Light Chain Variable Region is Phe or Tyr.

11. The humanized antibody or active fragment thereof, according to claim 1, further comprising a light chain constant region comprising the amino acid sequence of SEQ ID NO: 14.

12. The humanized antibody or active fragment thereof according to claim 1, comprising a heavy chain comprising the amino acid sequence of SEQ ID NO: 17.

13. The humanized antibody or an active fragment thereof according to claim 1, comprising a light chain comprising the amino acid sequence of SEQ ID NO: 13.

14. The humanized antibody or an active fragment thereof according to claim 1, comprising a heavy chain comprising the amino acid sequence of SEQ ID NO: 16.

15. The humanized antibody or active fragment thereof, according to claim 14, wherein the C-terminal Lys of the heavy chain constant region has been removed.

16. A humanized antibody or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising a light chain comprising the amino acid sequence of SEQ ID NO: 13 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 16 or SEQ ID NO: 16 in which the C-terminal Lys has been removed.

17. The humanized antibody or an active fragment thereof according to claim 1, comprising an LCVR comprising the amino acid sequence of SEQ ID NO: 12.

18. The humanized antibody or an active fragment thereof according to claim 1, comprising an HCVR comprising the amino acid sequence of SEQ ID NO: 15.

19. A humanized antibody or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising an LCVR comprising the amino acid sequence of SEQ ID NO: 12 and an HCVR comprising the amino acid sequence of SEQ ID NO: 15.

20. The humanized antibody or active fragment thereof, according to any one of claims 1 to 19, which antibody is of the IgG1, IgG2, IgG3, or IgG4 isotype, or is a mutated IgG4 isotype.

21. The humanized antibody or active fragment thereof, according to claim 1, which antibody exhibits both an aggregation inhibition property as well as a disaggregation property.

22. The humanized antibody or active fragment thereof, according to claim 1, which antibody:

a. inhibits the aggregation of the Aβ monomers into high molecular polymeric fibrils or filaments upon co-incubation with amyloid monomeric and/or polymeric soluble amyloid peptides, and/or a polymeric soluble β-amyloid peptide comprising a plurality of said Aβ monomeric peptides, and

b. is capable of disaggregating the preformed polymeric fibrils or filaments upon co- incubation with preformed high molecular polymeric amyloid fibrils or filaments formed by the aggregation of amyloid monomeric peptides.

23. The humanized antibody or active fragment thereof according to claim 22, wherein the amyloid monomeric and/or polymeric soluble amyloid peptides comprise Aβ monomeric peptides 1-39, 1-40, 1-41, or 1-42.

24. The humanized antibody or active fragment thereof according to claim 22, wherein the amyloid monomeric and/or polymeric soluble β-amyloid peptide comprise $A\beta_{1-42}$ monomeric peptides.

25. The humanized antibody or active fragment thereof according to claim 22, wherein the amyloid monomeric peptides comprise β-amyloid monomeric peptides 1-39, 1-40, 1-41, and 1-42.

26. The humanized antibody or active fragment thereof according to claim 1, which antibody binds to aggregated Aβ in a mammalian brain.

27. The humanized antibody or active fragment thereof, according to claim 1, which antibody reduces Aβ plaque burden in a mammalian brain.

28. The humanized antibody or active fragment thereof according to claim 1, which antibody is of the IgG4 isotype.

29. A pharmaceutical composition comprising the humanized antibody or active fragment thereof according to any one of claims 1 to 28.

30. The pharmaceutical composition according to claim 29 for use in preventing, treating or alleviating one or more effects of amyloidosis.

31. The pharmaceutical composition according to claim 30, wherein the amyloidosis is Alzheimer's Disease.

32. The pharmaceutical composition according to claim 30, wherein the amyloidosis is secondary amyloidosis or age-related amyloidosis, Alzheimer's Disease (AD), Lewy body dementia, Down's syndrome, or hereditary cerebral hemorrhage with amyloidosis (Dutch type).

33. The pharmaceutical composition according to claim 30, wherein the amyloidosis is the Guam Parkinson-Dementia complex, progressive supranuclear palsy, multiple sclerosis, Creutzfeld Jacob disease, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis), Adult Onset Diabetes, senile cardiac amyloidosis, endocrine tumors, or macular degeneration.

34. A kit for detection and diagnosis of amyloid-associated diseases and conditions comprising the humanized antibody or active fragment thereof according to any one of claims 1 to 28.

35. A nucleic acid molecule comprising a nucleotide sequence encoding a humanized antibody or an active fragment thereof according to any one of claims 1-28, or the LCVR of the antibody, or the HCVR of the antibody.

36. A nucleic acid molecule comprising a nucleotide sequence encoding an antibody variable region comprising an HCVR and/or an LCVR of the humanized antibody or active fragment thereof according to any one of claims 1-28.

37. The nucleic acid molecule according to claim 35 or 36 comprising the nucleotide sequence of SEQ ID NO: 21 and/or SEQ ID NO: 24.

38. The nucleic acid molecule according to claim 35 or 36 encoding a Light Chain comprising the nucleotide sequence of SEQ ID NO: 22 and/or a Heavy Chain comprising the nucleotide sequence of SEQ ID NO: 25.

39. The nucleic acid molecule according to claim 35 or 36 encoding a Light Chain Variable Region and a light chain constant region comprising the nucleotide sequence of SEQ ID NO: 21 and the nucleotide sequence of SEQ ID NO: 23, respectively.

40. The nucleic acid molecule according to claim 35 or 36 encoding a Heavy Chain Variable Region and a heavy chain constant region comprising the nucleotide sequence of SEQ ID NO: 24 and the nucleotide sequence of SEQ ID NO: 26, respectively.

41. An expression vector comprising the nucleotide sequence of any one of claims 35-40.

~~42. A cell comprising the nucleic acid molecule of any one of claims 35-40 or an~~ expression vector of claim 40.

43. A composition comprising the humanized antibody or active fragment thereof according to any one of claims 1-28.

44. A mixture comprising the humanized antibody or active fragment thereof according to any one of claims 1-28.

45. A mixture comprising a therapeutically effective amount of a humanized antibody, or an active fragment thereof, according to any one of claims 1-28, and one or more of the following: a biologically active substance, a pharmaceutically acceptable carrier, a diluent, or an excipient.

46. A mixture according to claim 45, wherein the biologically active substance is a compound used in the treatment of amyloidosis.

47. A mixture according to claim 46, comprising at least one of the following compounds: an anti-oxidative stress compound; an anti-apoptotic compound; a metal chelator; a DNA repair inhibitor; 3-amino-1-propanesulfonic acid (3 APS); 1,3-propanedisulfonate (1,3PDS); an α-secretase activator; a β- and γ- secretase inhibitor; a tau protein; a neurotransmitter; a β-sheet breaker; an attractant for amyloid beta clearing / depleting cellular components; an inhibitor of N-terminal truncated amyloid beta; an anti-inflammatory molecule; or a cholinesterase inhibitor (ChEI) such as tacrine, rivastigmine, donepezil, and/or galantamine; an Ml agonist; or another drug.

48. A mixture according to claim 47, wherein the DNA repair inhibitor is pirenzepin.

49. A mixture according to claim 47, wherein the inhibitor of N-terminal truncated amyloid beta is pyroglutamated amyloid beta 3-42.

50. A mixture according to claim 47, wherein the cholinesterase inhibitor (ChEI) is a tacrine, rivastigmine, donepezil, or galantamine.

51. A mixture according to claim 47, wherein the other drug is an amyloid- or tau-modifying drug or nutritive supplement.

52. A mixture according to claim 47, wherein the compound is a cholinesterase inhibitor (ChEI).

53. A mixture according to any one of claims 45 to 47, wherein the compound is tacrine, rivastigmine, donepezil, galantamine, niacin or memantine.

54. Use of the humanized antibody or active fragment thereof according to any one of claims 1-28 or a pharmaceutical composition according to any one of claims 29-33, and/or a composition according to claim 43, or a mixture according to any one of claims 44 to 53 for the preparation of a medicament for treating or alleviating one or more effects of amyloidosis.

55. Use according to claim 54, wherein the amyloidosis is secondary amyloidosis, age-related amyloidosis, Alzheimer's Disease (AD), Lewy body dementia, Down's syndrome, or hereditary cerebral hemorrhage with amyloidosis (Dutch type).

56. Use according to claim 54, wherein the amyloidosis is progressive supranuclear palsy, multiple sclerosis, the Guam Parkinson-Dementia complex, Creutzfeld Jacob disease, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis), Adult Onset Diabetes, senile cardiac amyloidosis, endocrine tumors, or macular degeneration.

57. Use according to claim 54, wherein the amyloidosis is Alzheimer's disease.

58. Use according to claim 54, wherein the amyloidosis is characterized by a loss of cognitive memory capacity in a mammal or a human.

59. Use according to claim 58, wherein the treatment of a mammal or a human, leads to the retention of cognitive memory capacity.

60. Use according to claim 58, wherein the treatment of the mammal or human leads to an increase of the cognitive memory capacity.

61. Use according to claim 58, wherein the treatment of the mammal or a human leads to a complete restoration of the cognitive memory capacity.

62. A method for the preparation of a pharmaceutical composition according to any one of claims 29-33, or a composition according to claim 41, or a mixture according to any one of claims 44-53, for use in a method of preventing, treating or alleviating one or more effects of amyloidosis, comprising formulating an antibody according to any one of claims 1-28 in a pharmaceutically acceptable form.

63. A method according to claim 62, wherein the amyloidosis is secondary amyloidosis or age-related amyloidosis, Alzheimer's Disease (AD), Lewy body dementia, Down's syndrome, or hereditary cerebral hemorrhage with amyloidosis (Dutch type).

64. A method according to claim 62, wherein the amyloidosis is the Guam Parkinson-Dementia complex, progressive supranuclear palsy, multiple sclerosis, Creutzfeld Jacob disease, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis), Adult Onset Diabetes, senile cardiac amyloidosis, endocrine tumors, or macular degeneration.

65. A method according to claim 62, wherein the amyloidosis is Alzheimer's disease.

66. A kit according to claim 34, further comprising instructions for using the antibody.

67. A humanized antibody or an active fragment thereof according to any of claims 1-28, for use in protecting neurons from Aβ-induced degradation.

68. Use of a humanized antibody or an active fragment thereof according to any of claims 1-28 for the preparation of a medicament for preventing degeneration of neurons upon exposure to Aβ oligomers.

69. A humanized antibody or an active fragment thereof, according to claim 26 or 27, wherein the mammalian brain is a human brain.

70. A method of producing the humanized antibody or the active fragment thereof, according to any one of claims 1-28, comprising the step of culturing the cell of claim 42.

71. The method of claim 70, further comprising the step of purifying the humanized antibody or the fragment thereof produced by the cell.

72. A method of producing the humanized antibody or the active fragment thereof, according to any one of claims 1-28, comprising the step of expressing one or more nucleic acid molecules independently selected from the nucleic acid molecules according to any one of the claims 35 to 40.

73. A method of detection of amyloidosis in a patient comprising:

(a) contacting a sample containing amyloid protein with an antibody or fragment thereof according to any one of claims 1-28 under conditions that allow binding of the antibody or fragment thereof to amyloid protein; and

(b) detecting the antibody bound to amyloid protein;

such that the presence or absence of antibody bound to amyloid protein indicates the presence or absence of amyloid protein in the sample.

74. A method of determining the extent of amyloidogenic plaque burden in a tissue sample and/or body fluid sample comprising:

(a) testing a tissue sample or body fluid sample for the presence of amyloid protein with an antibody or fragment thereof according to any one of claims 1 to 28;

(b) determining the amount of antibody bound to amyloid protein; and

(c) calculating the plaque burden in the tissue sample or body fluid sample.

75. Use of the antibody or fragment thereof according to any one of claims 1-28 for the preparation of a medicament for disaggregating preformed beta-amyloid fibers.

CLAIMS:

1. A humanized antibody, or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising (i) human- or primate-derived framework regions, (ii) a heavy chain variable region (HCVR) comprising HCVR complementarity determining region 1 (CDR1) comprising the amino acid sequence of SEQ ID NO: 1, HCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 2, HCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 3, and amino acid Leu at Kabat position 47 and amino acid Ser at Kabat position 94 in the framework region of the HCVR and (iii) a light chain variable region (LCVR) comprising LCVR CDR1 comprising the amino acid sequence of SEQ ID NO: 4, LCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 5 or the amino acid sequence RVSNRFS or KVSSRFS, and LCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 6.

2. A humanized antibody, or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising human- or primate-derived framework regions, wherein the humanized antibody or active fragment thereof comprises:

(i) a heavy chain variable region (HCVR) comprising an amino acid sequence that is at least 98% identical to the amino acid sequence that is SEQ ID NO: 15, and a light chain variable region (LCVR) comprising LCVR CDR1 comprising the amino acid sequence of SEQ ID NO: 4, LCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 5 or the amino acid sequence RVSNRFS or KVSSRFS, and LCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 6; or

(ii) a heavy chain variable region (HCVR) comprising HCVR complementarity determining region 1 (CDR1) comprising the amino acid sequence of SEQ ID NO: 1, HCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 2, and HCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 3, and a light chain variable region (LCVR) comprising an amino acid sequence that is at least 98% identical to the amino acid sequence that is SEQ ID NO: 12.

3. A humanized antibody, or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising human- or primate-derived framework regions, wherein the humanized antibody or active fragment thereof comprises:

(i) a heavy chain variable region (HCVR) comprising the amino acid sequence of SEQ ID NO: 15, and a light chain variable region (LCVR) comprising LCVR CDR1 comprising the amino acid sequence of SEQ ID NO: 4, LCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 5 or the amino acid sequence RVSNRFS or KVSSRFS, and LCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 6; or

(ii) a heavy chain variable region (HCVR) comprising HCVR complementarity determining region 1 (CDR1) comprising the amino acid sequence of SEQ ID NO: 1, HCVR CDR2 comprising the amino acid sequence of SEQ ID NO: 2, and HCVR CDR3 comprising the amino acid sequence of SEQ ID NO: 3, and a light chain variable region (LCVR) comprising the amino acid sequence of SEQ ID NO: 12.

4. The humanized antibody, or an active fragment thereof, according to any one of claims 1-3, wherein the LCVR CDR2 comprises the amino acid sequence of SEQ ID NO: 5.

5. The humanized antibody, or active fragment thereof, according to any one of claims 1-3, wherein the LCVR CDR2 comprises the amino acid sequence RVSNRFS or KVSSRFS.

6. The humanized antibody or active fragment thereof according to any one of claims 1-3, wherein (a) the amino acid in Kabat position 87 in the framework regions of the Light Chain Variable Region is Phe or Tyr; and/or (b) the amino acid in Kabat position 45 in the framework regions of the Light Chain Variable Region is Lys or Gln.

7. The humanized antibody or active fragment thereof according to any one of claims 1-3, wherein the amino acid in Kabat position 87 in the framework regions of the Light Chain Variable Region is Phe or Tyr.

8. The humanized antibody or active fragment thereof, according to any one of claims 1-7, further comprising a light chain constant region comprising the amino acid sequence of SEQ ID NO: 14.

9. The humanized antibody or active fragment thereof according to any one of claims 1-8, comprising a heavy chain comprising the amino acid sequence of SEQ ID NO: 17.

10. The humanized antibody or an active fragment thereof according to any one of claims 1-9, comprising a light chain comprising the amino acid sequence of SEQ ID NO: 13.

11. The humanized antibody or an active fragment thereof according to any one of claims 1-10, comprising a heavy chain comprising the amino acid sequence of SEQ ID NO: 16.

12. The humanized antibody or active fragment thereof, according to claim 11, wherein the C-terminal Lys of the heavy chain constant region has been removed.

13. A humanized antibody or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising a light chain comprising the amino acid sequence of SEQ ID NO: 13 and a heavy chain comprising the amino acid sequence of SEQ ID NO: 16 or SEQ ID NO: 16 in which the C-terminal Lys has been removed.

14. The humanized antibody or an active fragment thereof according to any one of claims 1-9, comprising an LCVR comprising the amino acid sequence of SEQ ID NO: 12.

15. The humanized antibody or an active fragment thereof according to any one of claims 1-9, comprising an HCVR comprising the amino acid sequence of SEQ ID NO: 15.

16. A humanized antibody or an active fragment thereof, which recognizes and binds to an epitope of β-amyloid protein, comprising an LCVR comprising the amino acid sequence of SEQ ID NO: 12 and an HCVR comprising the amino acid sequence of SEQ ID NO: 15.

17. The humanized antibody or active fragment thereof, according to any one of claims 1 to 16, which antibody is of the IgG1, IgG2, IgG3, or IgG4 isotype, or is a mutated IgG4 isotype.

18. The humanized antibody or active fragment thereof, according to any one of claims 1 to 17, which antibody exhibits both an aggregation inhibition property as well as a disaggregation property.

19. The humanized antibody or active fragment thereof, according to any one of claims 1 to 17, which antibody:

a. inhibits the aggregation of the Aβ monomers into high molecular polymeric fibrils or filaments upon co-incubation with amyloid monomeric and/or polymeric soluble amyloid peptides, and/or a polymeric soluble β-amyloid peptide comprising a plurality of said Aβ monomeric peptides, and

b. is capable of disaggregating the preformed polymeric fibrils or filaments upon co- incubation with preformed high molecular polymeric amyloid fibrils or filaments formed by the aggregation of amyloid monomeric peptides.

20. The humanized antibody or active fragment thereof according to claim 19, wherein the amyloid monomeric and/or polymeric soluble amyloid peptides comprise Aβ monomeric peptides 1-39, 1-40, 1-41, or 1-42.

21. The humanized antibody or active fragment thereof according to claim 19, wherein the amyloid monomeric and/or polymeric soluble β-amyloid peptide comprise $A\beta_{1-42}$ monomeric peptides.

22. The humanized antibody or active fragment thereof according to claim 19, wherein the amyloid monomeric peptides comprise β-amyloid monomeric peptides 1-39, 1-40, 1-41, and 1-42.

23. The humanized antibody or active fragment thereof according to any one of claims 1-22, which antibody binds to aggregated Aβ in a mammalian brain.

24. The humanized antibody or active fragment thereof, according to any one of claims 1-23, which antibody reduces Aβ plaque burden in a mammalian brain.

25. The humanized antibody or active fragment thereof according to any one of claims 1-24, which antibody is of the IgG4 isotype.

26. A pharmaceutical composition comprising the humanized antibody or active fragment thereof according to any one of claims 1 to 25 for use in preventing, treating or alleviating one or more effects of amyloidosis.

27. The pharmaceutical composition according to claim 26, wherein the amyloidosis is Alzheimer's Disease.

28. The pharmaceutical composition according to claim 26, wherein the amyloidosis is secondary amyloidosis or age-related amyloidosis, Alzheimer's Disease (AD), Lewy body dementia, Down's syndrome, or hereditary cerebral hemorrhage with amyloidosis (Dutch type).

29. The pharmaceutical composition according to claim 26, wherein the amyloidosis is the Guam Parkinson-Dementia complex, progressive supranuclear palsy, multiple sclerosis, Creutzfeld Jacob disease, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis), Adult Onset Diabetes, senile cardiac amyloidosis, endocrine tumors, or macular degeneration.

30. Use of the humanized antibody or active fragment thereof according to any one of claims 1-25 in the preparation of a medical kit for detection and diagnosis of amyloidosis .

31. A nucleic acid molecule comprising a nucleotide sequence encoding (a) the humanized antibody or active fragment thereof according to any one of claims 1-25, or (b) the

LCVR or light chain of the antibody, or the HCVR or heavy chain, of the humanized antibody or active fragment thereof according to any one of claims 1-25.

32. A nucleic acid molecule comprising a nucleotide sequence encoding an antibody variable region comprising an HCVR and/or an LCVR of the humanized antibody or active fragment thereof according to any one of claims 1-25.

33. The nucleic acid molecule according to claim 31 or 32 comprising the nucleotide sequence of SEQ ID NO: 21 and/or SEQ ID NO: 24.

34. The nucleic acid molecule according to claim 31 or 32 encoding a Light Chain comprising the nucleotide sequence of SEQ ID NO: 22 and/or a Heavy Chain comprising the nucleotide sequence of SEQ ID NO: 25.

35. The nucleic acid molecule according to claim 31 or 32 encoding a Light Chain Variable Region and a light chain constant region comprising the nucleotide sequence of SEQ ID NO: 21 and the nucleotide sequence of SEQ ID NO: 23, respectively.

36. The nucleic acid molecule according to claim 31 or 32 encoding a Heavy Chain Variable Region and a heavy chain constant region comprising the nucleotide sequence of SEQ ID NO: 24 and the nucleotide sequence of SEQ ID NO: 26, respectively.

37. An expression vector comprising the nucleotide sequence of any one of claims 31-36.

38. A cell comprising the nucleic acid molecule of any one of claims 31-36 or an expression vector of claim 37.

39. A composition comprising the humanized antibody or active fragment thereof according to any one of claims 1-25.

40. A mixture comprising the humanized antibody or active fragment thereof according to any one of claims 1-25.

41. A mixture comprising a therapeutically effective amount of a humanized antibody, or an active fragment thereof, according to any one of claims 1-25, and one or more of the following: a biologically active substance, a pharmaceutically acceptable carrier, a diluent, or an excipient.

42. A mixture according to claim 41, wherein the biologically active substance is a compound used in the treatment of amyloidosis.

43. A mixture according to claim 42, further comprising at least one of the following compounds: an anti-oxidative stress compound; an anti-apoptotic compound; a metal chelator; a DNA repair inhibitor; 3-amino-1-propanesulfonic acid (3 APS); 1,3-propanedisulfonate (1,3PDS); an α-secretase activator; a β- and γ- secretase inhibitor; a tau protein; a neurotransmitter; a β-sheet breaker; an attractant for amyloid beta clearing / depleting cellular components; an inhibitor of N-terminal truncated amyloid beta; an anti-inflammatory molecule; a cholinesterase inhibitor (ChEI) such as tacrine, rivastigmine, donepezil, and/or galantamine; an Ml agonist; or another drug.

44. A mixture according to claim 43, wherein the (i) DNA repair inhibitor is pirenzepin, (ii) the inhibitor of N-terminal truncated amyloid beta is pyroglutamated amyloid beta 3-42, (iii) the cholinesterase inhibitor (ChEI) is a tacrine, rivastigmine, donepezil, or galantamine, or (iv) the other drug is an amyloid- or tau-modifying drug or nutritive supplement.

45. A mixture according to any one of claims 41 to 43, wherein the compound is tacrine, rivastigmine, donepezil, galantamine, niacin or memantine.

46. Use of the humanized antibody or active fragment thereof according to any one of claims 1-25, or a pharmaceutical composition according to any one of claims 26-29, and/or a composition according to claim 39, or a mixture according to any one of claims 40-45, for the

preparation of a medicament for preventing, treating or alleviating one or more effects of amyloidosis.

47. Use according to claim 46, wherein the amyloidosis is secondary amyloidosis, age-related amyloidosis, Alzheimer's Disease (AD), Lewy body dementia, Down's syndrome, hereditary cerebral hemorrhage with amyloidosis (Dutch type), progressive supranuclear palsy, multiple sclerosis, the Guam Parkinson-Dementia complex, Creutzfeld Jacob disease, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis), Adult Onset Diabetes, senile cardiac amyloidosis, endocrine tumors, or macular degeneration.

48. Use according to claim 46, wherein the amyloidosis is Alzheimer's disease.

49. Use according to claim 46, wherein the amyloidosis is characterized by a loss of cognitive memory capacity in a mammal or a human.

50. Use according to claim 49, wherein the treatment of a mammal or a human, leads to the retention of cognitive memory capacity.

51. Use according to claim 49, wherein the treatment of the mammal or human leads to an increase of the cognitive memory capacity.

52. Use according to claim 49, wherein the treatment of the mammal or a human leads to a complete restoration of the cognitive memory capacity.

53. A kit according to claim 30, further comprising instructions for using the antibody for the purpose of binding to amyloid protein to form an immunological complex and detecting the formation of the immunological complex such that presence or absence of the immunological complex correlates with the presence or absence of amyloid protein.

54. A humanized antibody or an active fragment thereof according to any of claims 1-25, for use in protecting neurons from Aβ-induced degradation.

55. Use of a humanized antibody or an active fragment thereof according to any of claims 1-25 for the preparation of a medicament for preventing degeneration of neurons upon exposure to Aβ oligomers.

56. A humanized antibody or an active fragment thereof, according to claim 23 or 24, wherein the mammalian brain is a human brain.

57. A method of producing the humanized antibody or the active fragment thereof, according to any one of claims 1-25, comprising the step of culturing the cell of claim 38.

58. The method of claim 57, further comprising the step of purifying the humanized antibody or the active fragment thereof produced by the cell.

59. A method of producing the humanized antibody or the active fragment thereof, according to any one of claims 1-25, comprising the step of expressing one or more nucleic acid molecules independently selected from the nucleic acid molecules according to any one of the claims 31-36.

60. An *in vitro* method of detection of amyloidosis in a patient comprising:

(a) contacting a sample containing amyloid protein that has been obtained from the patient under investigation with an antibody or fragment thereof according to any one of claims 1-25 under conditions that allow binding of the antibody or fragment thereof to amyloid protein; and

(b) detecting the antibody bound to amyloid protein;

such that the presence or absence of antibody bound to amyloid protein indicates the presence or absence of amyloid protein in the sample of the patient.

61. An *in vitro* method of determining the extent of amyloidogenic plaque burden in a tissue sample and/or body fluid sample of a subject comprising:

(a) testing a tissue sample or body fluid sample that has been obtained from the subject under investigation for the presence of amyloid protein with an antibody or active fragment thereof according to any one of claims 1 to 25;

(b) determining the amount of antibody bound to amyloid protein; and

(c) calculating the plaque burden in the tissue sample or body fluid sample of the subject.

62. Use of the humanized antibody or active fragment thereof according to any one of claims 1-25 for the preparation of a medicament for disaggregating preformed beta-amyloid fibers for treating or alleviating one or more effects of amyloidosis.