WHAT IS CLAIMED IS:

1. A humanized monoclonal antibody comprising a variable heavy and light chain, wherein:

the three CDRs of said variable heavy chain are SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, and

the three CDRs of said variable light chain are SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO:10,

wherein the antibody binds with greater specificity to an amyloid beta protein globulomer than to an amyloid beta protein monomer.

2. The antibody of claim 1, wherein all or substantially all of the framework regions correspond to those of a human immunoglobulin consensus sequence.

3. The antibody of claim 1 or 2 for use in treating or preventing Alzheimer's Disease.

4. A pharmaceutical composition comprising an antibody of claim 1 or 2.

5. A vaccine comprising an antibody of claim 1 or 2 and a pharmaceutically acceptable adjuvant.

6. The use of an antibody of claim 1 or 2 in the manufacture of a medicament for treating or preventing Alzheimer's Disease.

7. A method of diagnosing Alzheimer's Disease in a patient suspected of having this disease comprising the steps of:

(a) contacting a biological sample from said patient with an antibody of claim 1 or 2for a time and under conditions sufficient for formation of antigen/antibody complexes; and

(b) detecting presence of said antigen/antibody complexes in said sample, presence of said complexes indicating a diagnosis of Alzheimer's Disease in said patient.

8. A method of diagnosing Alzheimer's Disease in a patient suspected of having this disease comprising the steps of:

(a) contacting a biological sample from said patient with an antigen that is an amyloid beta (Aβ) protein globulomer for a time and under conditions sufficient for the formation of antigen/antibody complexes;

(b) adding a conjugate to the resulting antibody/antigen complexes for a time and under conditions sufficient to allow said conjugate to bind to the bound antibody, wherein said conjugate comprises an antibody of claim 1 or 2; and

(c) detecting presence of said antigen/antibody complexes in said sample, presence of said complexes indicating a diagnosis of Alzheimer's Disease in said patient.

9. A method of diagnosing Alzheimer's Disease in a patient suspected of having this disease comprising the steps of:

(a) contacting a biological sample from said patient with anti-antibody, wherein said anti-antibody is specific for said antibody of claim 1 or 2 for a time and under conditions sufficient to allow for formation of anti-antibody/antibody complexes, said complexes containing antibody present in said biological sample;

(b) adding a conjugate to resulting anti-antibody/antibody complexes for a time and under conditions sufficient to allow said conjugate to bind to bound antibody, wherein said conjugate comprises an antigen, which binds to a signal generating compound capable of generating a detectable signal; and

(c) detecting a signal generated by said signal generating compound, said signal indicating a diagnosis of Alzheimer's Disease in said patient.

10. A method of identifying compounds suitable for active immunization of a patient predicted to develop Alzheimer's Disease comprising the steps of:

(a) exposing one or more compounds of interest to an antibody of claim 1 or 2 for a time and under conditions sufficient for said one or more compounds to bind to said antibody of claim 1 or 2; and

(b) identifying those compounds which bind to said antibody of claim 1 or 2, said identified compounds to be used in active immunization in a patient predicted to develop Alzheimer's Disease.

11. A kit comprising:

(a) an antibody of claim 1 or 2 and

(b) a conjugate comprising a second Aβ protein globulomer-specific antibody attached to a signal-generating compound capable of generating a detectable signal, wherein said second antibody of said conjugate is different from said antibody of claim 1 or 2.

12. A kit comprising:

(a) an anti-antibody to an antibody of claim 1 or 2 and

(b) a conjugate comprising an Aβ protein globulomer attached to a signal-generating compound capable of generating a detectable signal.

WHAT IS CLAIMED IS:

1. A monoclonal antibody comprising a variable heavy and light chain, wherein:

the three CDRs of said variable heavy chain are SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, and

the three CDRs of said variable light chain are SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO:10,

wherein the antibody binds with greater specificity to an amyloid beta protein globulomer than to an amyloid beta protein monomer.

2. The monoclonal antibody of claim 1, which is a humanized antibody.

3. The monoclonal antibody of claim 1, wherein the variable heavy chain comprises SEQ ID NO:3 and the variable light chain comprises SEQ ID NO:4.

4. The humanized antibody of claim 2, wherein all or substantially all of the framework regions correspond to those of a human immunoglobulin consensus sequence.

5. A hybridoma having American Type Culture Collection designation number PTA-7238.

6. A monoclonal antibody (8F5) produced by said hybridoma of claim 5.

7. The antibody of any one of claims 1-4, or 6 for use in treating or preventing Alzheimer's Disease.

8. A pharmaceutical composition comprising an antibody of any one of claims 1-4, or 6.

9. A vaccine comprising an antibody of any one of claims 1-4, or 6 and a pharmaceutically acceptable adjuvant.

10. The use of an antibody of any one of claims 1-4, or 6 in the manufacture of a medicament for treating or preventing Alzheimer's Disease.

11. A method of diagnosing Alzheimer's Disease in a patient suspected of having this disease comprising the steps of:

(a) contacting a biological sample from said patient with an antibody of any one of claims 1-4, or 6 for a time and under conditions sufficient for formation of antigen/antibody complexes; and

(b) detecting presence of said antigen/antibody complexes in said sample, presence of said complexes indicating a diagnosis of Alzheimer's Disease in said patient.

12. A method of diagnosing Alzheimer's Disease in a patient suspected of having this disease comprising the steps of:

(a) contacting a biological sample from said patient with an antigen that is an amyloid beta (Aβ) protein globulomer for a time and under conditions sufficient for the formation of antigen/antibody complexes;

(b) adding a conjugate to the resulting antibody/antigen complexes for a time and under conditions sufficient to allow said conjugate to bind to the bound antibody, wherein said conjugate comprises an antibody of any one of claims 1-4, or 6; and

(c) detecting presence of said antigen/antibody complexes in said sample, presence of said complexes indicating a diagnosis of Alzheimer's Disease in said patient.

13. A method of diagnosing Alzheimer's Disease in a patient suspected of having this disease comprising the steps of:

(a) contacting a biological sample from said patient with anti-antibody,

wherein said anti-antibody is specific for said antibody of any one of claims 1-4, or 6 for a time and under conditions sufficient to allow for formation of anti-antibody/antibody complexes, said complexes containing antibody present in said biological sample;

(b) adding a conjugate to resulting anti-antibody/antibody complexes for a time and under conditions sufficient to allow said conjugate to bind to bound antibody, wherein said conjugate comprises an antigen, which binds to a

signal generating compound capable of generating a detectable signal; and

(c) detecting a signal generated by said signal generating compound, said signal indicating a diagnosis of Alzheimer's Disease in said patient.

14. A method of identifying compounds suitable for active immunization of a patient predicted to develop Alzheimer's Disease comprising the steps of:

(a) exposing one or more compounds of interest to an antibody of any one of claims 1-4, or 6 for a time and under conditions sufficient for said one or more compounds to bind to said antibody of any one of claims 1-4, or 6; and

(b) identifying those compounds which bind to said antibody of any one of claims 1-4, or 6, said identified compounds to be used in active immunization in a patient predicted to develop Alzheimer's Disease.

15. A kit comprising:

(a) an antibody of any one of claims 1-4, or 6 and

(b) a conjugate comprising a second Aβ protein globulomer-specific antibody attached to a signal-generating compound capable of generating a detectable signal, wherein said second antibody of said conjugate is different from said antibody of any one of claims 1-4, or 6.

16. A kit comprising:

(a) an anti-antibody to an antibody of any one of claims 1-4, or 6 and

(b) a conjugate comprising an Aβ protein globulomer attached to a signal-generating compound capable of generating a detectable signal.