aggregates and which reduce the propagation of tau aggregate formation, NFT formation and neuronal loss. Such tau antibodies preferably also possess good physical-chemical properties to facilitate development, manufacturing, and/or formulation.

Summary

In one aspect of the present disclosure, there is provided a monoclonal antibody that binds human tau protein comprising a light chain variable region (LCVR) and a heavy chain variable region (HCVR), wherein the amino acid sequence of the LCVR is given by SEQ ID NO: 9 and the amino acid sequence of the HCVR is given by SEQ ID NO: 10.

In another aspect of the present disclosure, there is provided a DNA molecule comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 1, and comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2.

In yet another aspect of the present disclosure, there is provided a mammalian cell comprising a DNA molecule comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 1 and a DNA molecule comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2, wherein the cell is capable of expressing a monoclonal antibody comprising a light chain having an amino acid sequence of SEQ ID NO: 1 and a heavy chain having an amino acid sequence of SEQ ID NO: 2.

In a further aspect of the present disclosure, there is provided a mammalian cell comprising the DNA molecule as described herein, wherein the cell is capable of expressing a monoclonal antibody comprising a light chain having an amino acid sequence of SEQ ID NO: 1 and a heavy chain having an amino acid sequence of SEQ ID NO: 2.

In another aspect of the present disclosure, there is provided a process for producing a monoclonal antibody comprising a light chain having an amino acid sequence of SEQ ID NO: 1 and a heavy chain having an amino acid sequence of SEQ ID NO: 2, the process comprising cultivating the mammalian cell as described herein under

conditions such that the monoclonal antibody is expressed, and recovering the expressed monoclonal antibody.

In yet another aspect of the present disclosure, there is provided a pharmaceutical composition comprising a monoclonal antibody as described herein and one or more pharmaceutically acceptable carriers, diluents or excipients.

In a further aspect of the present disclosure, there is provided a use of the pharmaceutical composition as described herein in the manufacture of a medicament for treating Alzheimer's disease, Progressive Supranuclear Palsy or Pick's disease.

In another aspect of the present disclosure, there is provided a monoclonal antibody as described herein for use in therapy.

In yet another aspect of the present disclosure, there is provided a monoclonal antibody as described herein for use in the treatment of a disease selected from the group consisting of Alzheimer's disease, Progressive Supranuclear Palsy and Pick's disease.

In a further aspect of the present disclosure, there is provided a use of a monoclonal antibody as described herein in the manufacture of a medicament for the treatment of Alzheimer's disease, Progressive Supranuclear Palsy or Pick's disease.

In another aspect of the present disclosure, there is provided a pharmaceutical composition as described herein for use in treating Alzheimer's disease, Progressive Supranuclear Palsy or Pick's disease.

Description

The present invention provides a monoclonal antibody that binds human tau and which comprises a light chain variable region (LCVR) and a heavy chain variable region (HCVR), wherein the LCVR comprises complementarity determining regions (CDRs) LCDR1, LCDR2 and LCDR3 and the HCVR comprises CDRs HCDR1, HCDR2 and HCDR3. According to particular embodiments of the present invention the amino acid sequence of LCDR1 is given by SEQ ID NO.3, the amino acid sequence of LCDR2 is given by SEQ ID NO.4, the amino acid sequence of LCDR3 is given by SEQ ID NO.5, the amino acid sequence of HCDR1 is given by SEQ ID NO.6, the amino acid sequence of HCDR2 is given by SEQ ID NO.7, and the amino acid sequence of HCDR3 is given by SEQ ID NO.8. In an embodiment, the present invention provides a monoclonal

WE CLAIM:

1. A monoclonal antibody that binds human tau protein comprising a light chain variable region (LCVR) and a heavy chain variable region (HCVR), wherein the amino acid sequence of the LCVR is given by SEQ ID NO: 9 and the amino acid sequence of the HCVR is given by SEQ ID NO: 10.

2. The monoclonal antibody of Claim 1, comprising a light chain (LC) and a heavy chain (HC), wherein the amino acid sequence of the LC is given by SEQ ID NO: 1 and the amino acid sequence of the HC is given by SEQ ID NO: 2.

3. A DNA molecule comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 1, and comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2.

4. A mammalian cell comprising a DNA molecule comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 1 and a DNA molecule comprising a polynucleotide sequence encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2, wherein the cell is capable of expressing a monoclonal antibody comprising a light chain having an amino acid sequence of SEQ ID NO: 1 and a heavy chain having an amino acid sequence of SEQ ID NO: 2.

5. A mammalian cell comprising the DNA molecule of Claim 3, wherein the cell is capable of expressing a monoclonal antibody comprising a light chain having an amino acid sequence of SEQ ID NO: 1 and a heavy chain having an amino acid sequence of SEQ ID NO: 2.

6. A process for producing a monoclonal antibody comprising a light chain having an amino acid sequence of SEQ ID NO: 1 and a heavy chain having an amino acid sequence of SEQ ID NO: 2, the process comprising cultivating the mammalian cell of any one of

Claims 4 and 5 under conditions such that the monoclonal antibody is expressed, and recovering the expressed monoclonal antibody.

7. A pharmaceutical composition comprising a monoclonal antibody of any one of Claims 1-2 and one or more pharmaceutically acceptable carriers, diluents or excipients.

8. Use of the pharmaceutical composition of claim 7 in the manufacture of a medicament for treating Alzheimer's disease, Progressive Supranuclear Palsy or Pick's disease.

9. A monoclonal antibody of any one of Claims 1-2 for use in therapy.

10. A monoclonal antibody of any one of Claims 1-2 for use in the treatment of a disease selected from the group consisting of Alzheimer's disease, Progressive Supranuclear Palsy and Pick's disease.

11. Use of a monoclonal antibody of any one of Claims 1-2 in the manufacture of a medicament for the treatment of Alzheimer's disease, Progressive Supranuclear Palsy or Pick's disease.

12. A pharmaceutical composition of Claim 7 for use in treating Alzheimer's disease, Progressive Supranuclear Palsy or Pick's disease.