CLAIMS

What is claimed is:

1. A pharmaceutical composition for use in preventing or treating amyloid β peptide-associated diseases or conditions comprising acteoside and isoacteoside as potent components, which comprises a phenylethanoid glycoside preparation extracting from a plant as a source of the potent components, wherein the preparation comprises the isoacteoside and the acteoside as the major phenylethanoid glycosides and is free of echinacoside, and the content of the isoacteoside is greater than that of the acteoside.

2. The pharmaceutical composition of claim 1, wherein the weight ratio of the isoacteoside to the acteoside is about 2:3.

3. The pharmaceutical composition claim 1, wherein the pharmaceutical composition inhibits formation, accumulation or aggregation of the amyloid β peptides.

4. The pharmaceutical composition claim 1, wherein the pharmaceutical composition inhibits extracellular formation, accumulation or aggregation of the amyloid β peptides.

5. The pharmaceutical composition of claim 1, wherein the pharmaceutical composition inhibits neuronal damage or apoptosis caused by the amyloid β peptides, so as to retain, improve or restore learning and memory abilities of said individual.

6. The pharmaceutical composition of claim 1, wherein the amyloid β peptide-associated disease or condition is Alzheimer's disease, mild cognitive impairment, Lewy body dementia, Down syndrome, Hereditary cerebral

hemorrhage with amyloid (HCHWA) Dutch, Parkinsonism-dementia complex on Guam, Cerebral amyloid angiopathy, inclusion body myositis, frontotemporal dementia, age-related macular degeneration, or Pick's disease.

7. The pharmaceutical composition of claim 1, wherein said pharmaceutical composition is for treating Alzheimer's disease.

8. The pharmaceutical composition of claim 1, wherein said pharmaceutical composition is for preventing an organism from suffering Alzheimer's disease or for delaying an organism suffering Alzheimer's disease.

9. The pharmaceutical composition of claim 1, wherein an affective dosage of said pharmaceutical composition to human is equivalent to 0.2 mg – 4.0 mg of said potent components per kg of body weight per day.

10. The pharmaceutical composition of claim 1, wherein the preparation comprises 12-32% of acteoside and 26-46% of the isoacteoside, based on the weight of the preparation.

11. The pharmaceutical composition of claim 10, wherein the plant is *Cistanche tubulosa* (Schenk.) Wight.

12. The pharmaceutical composition of claim 11, wherein the preparation is provided by a process comprising the following steps:
    a) extracting fleshy stems of *Cistanche tubulosa* (Schenk.) Wight with a first polar solvent;
    b) introducing the resulting extract from step a) into a column which is packed with hydrophobic macro-porous polymeric beads, thereby enabling phenylethanoid glycosides to be adsorbed on the polymeric beads;

c) eluting the column by use of a second polar solvent serving as a mobile phase, so that relatively less strongly adsorbed compounds are eluted from the column with most of phenylethanoid glycosides still being adsorbed on the polymeric beads; and

d) eluting the column by use of a third polar solvent so as to obtain an eluate which contains phenylethanoid glycosides, wherein the first polar solvent is water, methanol, ethanol, a mixture of water and methanol, or a mixture of water and ethanol; the second polar solvent is water; and the third polar solvent is methanol, ethanol, a mixture of water and methanol, or a mixture of water and ethanol, and the third polar solvent is lower in polarity than the second polar solvent;

e) concentrating the eluate which contains phenylethanoid glycosides, dissolving the concentrate in water, and contacting the aqueous solution with a macro-porous resin, so that the phenylethanoid glycosides are adsorbed on the macro-porous resin; and

f) eluting the macro-porous resin with a fourth polar solvent and a fifth polar solvent in sequence, wherein the fifth polar solvent is lower in polarity than the fourth polar solvent, so that an eluate resulting from the fourth polar solvent elution does not contain acteoside and isoacteoside, and an eluate resulting from the fifth polar solvent elution contain only acteoside and isoacteoside, wherein the fourth polar solvent and the fifth polar solvent are a mixture of water and methanol or a mixture of water and ethanol.

13. The pharmaceutical composition of claim 12, wherein the fourth polar solvent is 25-35% ethanol aqueous solution and the fifth polar solvent is 35-45% ethanol aqueous solution.

CLAIMS

What is claimed is:

1. A pharmaceutical composition for use in preventing or treating amyloid β peptide-associated diseases or conditions comprising acteoside and isoacteoside as potent components, wherein a weight ratio of the isoacteoside to the acteoside is about 4:1 to about 2:3, wherein the amyloid β peptide-associated disease or condition is Alzheimer's disease, mild cognitive impairment, Lewy body dementia, Down syndrome, Hereditary cerebral hemorrhage with amyloid (HCHWA) Dutch, Parkinsonism-dementia complex on Guam, Cerebral amyloid angiopathy, inclusion body myositis, frontotemporal dementia, age-related macular degeneration, or Pick's disease.

2. The pharmaceutical composition of claim 1, which is free of echinacoside.

3. The pharmaceutical composition claim 1, wherein the pharmaceutical composition inhibits formation, accumulation or aggregation of the amyloid β peptides.

4. The pharmaceutical composition of claim 1, wherein said pharmaceutical composition is for treating Alzheimer's disease.

5. The pharmaceutical composition of claim 1, wherein said pharmaceutical composition is for preventing an organism from suffering Alzheimer's disease or for delaying an organism suffering Alzheimer's disease.

6. The pharmaceutical composition of claim 1, wherein an affective dosage of said pharmaceutical composition to human is equivalent to 0.2 mg – 4.0 mg of said potent components per kg of body weight per day.

7. The pharmaceutical composition of claim 2, which comprises a phenylethanoid glycoside preparation extracted from a plant as a source of the potent components, wherein the preparation comprises the isoacteoside and the acteoside as the major

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phenylethanoid glycosides, and the content of the isoacteoside is greater than that of the acteoside.

8. The pharmaceutical composition of claim 1, wherein the preparation comprises 12-32% of acteoside and 26-46% of the isoacteoside, based on the weight of the preparation.

9. The pharmaceutical composition of claim 8, wherein the plant is *Cistanche tubulosa* (Schenk.) Wight.

10. The pharmaceutical composition of claim 9, wherein the preparation is provided by a process comprising the following steps:
    a) extracting fleshy stems of *Cistanche tubulosa* (Schenk.) Wight with a first polar solvent;
    b) introducing the resulting extract from step a) into a column which is packed with hydrophobic macro-porous polymeric beads, thereby enabling phenylethanoid glycosides to be adsorbed on the polymeric beads;
    c) eluting the column by use of a second polar solvent serving as a mobile phase, so that relatively less strongly adsorbed compounds are eluted from the column with most of phenylethanoid glycosides still being adsorbed on the polymeric beads; and
    d) eluting the column by use of a third polar solvent so as to obtain an eluate which contains phenylethanoid glycosides, wherein the first polar solvent is water, methanol, ethanol, a mixture of water and methanol, or a mixture of water and ethanol; the second polar solvent is water; and the third polar solvent is methanol, ethanol, a mixture of water and methanol, or a mixture of water and ethanol, and the third polar solvent is lower in polarity than the second polar solvent;
    e) concentrating the eluate which contains phenylethanoid glycosides, dissolving the concentrate in water, and contacting the aqueous solution with a macro-porous resin, so that the phenylethanoid glycosides are adsorbed on the macro-porous resin; and
    f) eluting the macro-porous resin with a fourth polar solvent and a fifth polar solvent in sequence, wherein the fifth polar solvent is lower in polarity than the fourth polar solvent, so that an eluate resulting from the fourth polar solvent elution does not contain acteoside and isoacteoside, and an eluate resulting from the fifth polar

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solvent elution contain only acteoside and isoacteoside, wherein the fourth polar solvent and the fifth polar solvent are a mixture of water and methanol or a mixture of water and ethanol.

11. The pharmaceutical composition of claim 10, wherein the fourth polar solvent is 25-35% ethanol aqueous solution and the fifth polar solvent is 35-45% ethanol aqueous solution.