

CLAIMS

1. Use of an agent for regulating amino acid level in mammalian peripheral blood in the manufacture of a medicament for treating Alzheimer's disease in a subject, wherein the amino acid is selected from phenylalanine and/or isoleucine, the agent is selected from inhibitors of amino acid transporters, agents for regulating the relative abundance of gut microbes, or combinations thereof.

2. The use according to claim 1, wherein the amino acid is phenylalanine.

3. The use according to claim 1, wherein the agent for regulating the relative abundance of gut microbes is selected from carbohydrate drugs; wherein the carbohydrate drug is selected from monosaccharides, disaccharides, oligosaccharides, polysaccharides, or derivatives thereof, or a combination of them and/or derivatives thereof; preferably oligosaccharides and polysaccharides.

4. The use according to claim 1, wherein the agent for regulating the gut microbes is selected from OM1

5. The use according to claim 1, wherein the inhibitors of amino acid transporters are selected from JPH 203, BCH and KMH-233, preferably JPH 203.

6. The use according to claim 1, wherein by detecting a peripheral blood sample from the subject, the agent regulates the amino acid level by 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300 μ M or more; and/or makes the amino acid level close to or reach the corresponding amino acid level of the corresponding normal subject.

7. The use according to claim 1, wherein by detecting a feces sample from the subject, the agent regulates the amino acid level by 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000 μ mol/g or more; and/or makes the amino acid level close to or reach the corresponding amino acid level of the corresponding normal subject.

8. The use according to claim 1, wherein the regulating amino acid level in mammalian peripheral blood is increasing the level of said amino acids in the mammalian peripheral blood

and/or decreasing the level of said amino acids in the mammalian peripheral blood; preferably, decreasing the level of said amino acids.

9. A method for screening a drug candidate that can be used to treat Alzheimer's disease comprising:

5 a) administering a test agent to a mammalian model with a certain amino acid level in peripheral blood, and

b) selecting the test agent that regulates the amino acid level as the drug candidate that can be used to treat Alzheimer's disease,

wherein the amino acid is selected from phenylalanine and/or isoleucine.

10 10. The method according to claim 9, further comprising administering GV-971 as a positive control to the mammalian model with a certain amino acid level in peripheral blood, preferably selecting a test agent that regulates the amino acid level substantially consistently with the GV-971.

11. The method according to claim 9 or 10, further comprising administering a selected
15 test agent to the mammalian model with a certain amino acid level in peripheral blood for verification, wherein by detecting a peripheral blood sample from the mammalian model, the selected test agent regulates the amino acid level by 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255,
20 260, 265, 270, 275, 280, 285, 290, 295, 300 μ M or more; and/or makes the amino acid level close to or reach the corresponding amino acid level in the corresponding normal mammalian model.

12. The method according to claim 9 or 10, further comprising administering a selected test agent to the mammalian model with a certain amino acid level in peripheral blood for
25 verification, wherein by detecting a feces sample from the mammalian model, the selected test agent regulates the amino acid level by 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000 μ mol/g or more; and/or makes the amino acid level close to or reach the corresponding amino acid level in the corresponding normal mammalian model.

13. The method according to any one of claims 9 to 12, wherein the amino acid is phenylalanine.

14. The method according to any one of claims 9 to 13, wherein the regulating amino acid level is increasing the level of said amino acids and/or decreasing the level of said amino acids;

5 preferably decreasing the level of said amino acids.