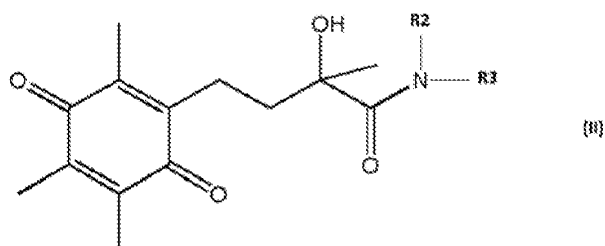
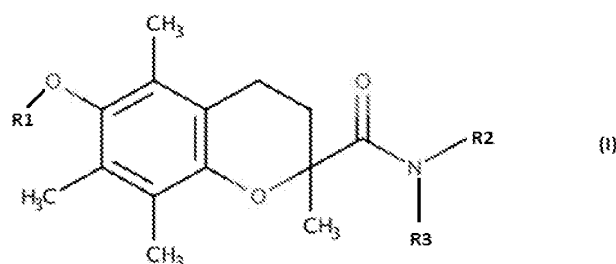


Claims

1. Compound according to formula (I) or (II), or a pharmaceutically acceptable salt thereof for use in the treatment of Alzheimer's disease, for improving the memory function, and/or for reducing plaque load in an Alzheimer disease patient;



- wherein R₁ represents a hydrogen or prodrug moiety that can be removed in living tissue
- and wherein either
 - R₂ and R₃ together with the N atom to which they are attached form a saturated or unsaturated, non-aromatic, optionally substituted 5-8 membered ring, having one to four N, O, or S atoms, wherein R₂ and R₃ together contain 3-12 carbon atoms;
 - or R₂ is a hydrogen atom, or an alkyl group with 1-6 carbon atoms, and R₃ is an alkyl group, optionally substituted with nitrogen or oxygen, wherein the alkyl group comprises 3-12 carbon atoms, the alkyl group in R₃ comprises one or more non-aromatic cyclic structures and may contain linear and/or branched groups, and one or more ethylenic unsaturations.

2. Compound for use according to claim 1, wherein R1 is hydrogen or forms together with the 6-oxygen an ester group with 2 - 6 carbon atoms.
3. Compound for use according to any one of claims 1-2, wherein the nitrogen can be
5 amine, quaternary amine, guanidine, or imine and oxygen is hydroxyl, carbonyl or carboxylic acid; and/or oxygen and nitrogen together form amide, urea or carbamate groups.
4. Compound for use according to any one of claims 1-3, wherein in either compounds
10 according to formula (I) or according to formula (II), R2 and R3 together with the N atom to which they are attached form a saturated ring incorporating an additional N atom, which ring is unsubstituted or substituted with an alcohol, or alkanol group having 1-4 carbon atoms.
5. Compound for use according to claim 4, wherein the compound is a compound
15 according to formula I.
6. Compound for use according to claim 5, wherein R2 and R3 together with the N atom
20 to which they are attached form a 5-7 membered ring comprising one additional amine group, which ring is optionally substituted with methyl, ethyl, or alcohol substituted methyl or ethyl.
7. Compound for use according to any one of claims 1-3, wherein R2 is a hydrogen atom
25 and R3 comprises a saturated cyclic structure having 4-7 carbon atoms and having one nitrogen atom, which ring may be substituted with an alkyl group, alcohol group, or with a group with 1-4 carbon atoms that may comprise an oxygen, carboxylic acid or amine group.
8. Compound for use according to claim 7, wherein the compound is a compound
30 according to formula II and wherein R2 is a hydrogen atom and R3 comprises a cyclic structure having 4-6 carbon atoms and having one nitrogen atom which ring is optionally substituted with methyl, ethyl, or alcohol substituted methyl or ethyl.

9. Compound for use according to claim 1, wherein the compound is (6-hydroxy-2,5,7,8-tetramethylchroman-2-yl)(piperazin-1-yl)methanone (SUL-121), ((S)-6-hydroxy-2,5,7,8-tetramethyl-N-((R)-piperidin-3-yl)chroman-2-carboxamide hydrochloride (SUL-13) or (6-hydroxy-2,5,7,8-tetramethylchroman-2-yl)(4-(2-hydroxyethyl)piperazin-1-yl)methanone (SUL-109).
10. Compound for use according to claim 9, wherein the compound is the S-enantiomer of SUL-109: S-(6-hydroxy-2,5,7,8-tetramethylchroman-2-yl)(4-(2-hydroxyethyl)piperazin-1-yl)methanone (SUL-138).
11. Compound for use according to any of claims 1-8, wherein the compound according formula (I) or formula (II) has a molecular weight lower than 500 Da.
12. Compound for use according to any of the preceding claims, wherein the use is for treating Alzheimer's disease.
13. Compound for use according to any of claims 1-12, wherein the use is for improving memory function.
14. Compound for use according to any of claims 1-13, wherein the use is for reducing plaque load in an Alzheimer disease patient.
15. Use of a compound as described in any one of claims 1-11 for improving the memory function in a mammal, preferably a human.