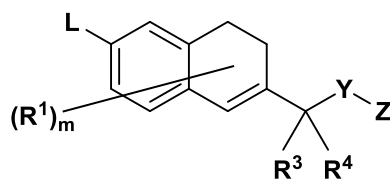


CLAIMS

1. A compound represented by the general formula (V) or a pharmaceutically acceptable salt thereof:

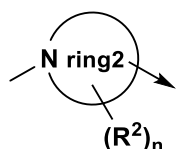


(V)

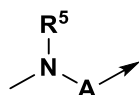
[wherein L is a branched or linear chain group composed of atoms selected from a carbon atom, an oxygen atom, a nitrogen atom, and a sulfur atom, in which the number of atoms in the main chain thereof is 3 to 8, and the chain group may contain 1 to 3 heteroatoms selected from an oxygen atom, a nitrogen atom, and a sulfur atom,

provided that a carbon atom in L may be substituted with 1 to 13 halogen atoms,

Y represents



or



wherein each group is bound to Z through a bond represented by an arrow,

A represents a C3-7 cycloalkylene group which may be substituted or a C1-4 alkylene group which may be substituted,

R¹ represents a C1-4 alkyl group, a C3-6 cycloalkyl group which may be substituted with a halogen, a C1-4 alkoxy group which may be substituted with a halogen, a C1-4 haloalkyl group, a halogen atom, or a hydroxy group,

R² represents a C1-4 alkyl group, a C1-4 alkoxy group which may be substituted with a halogen, a C1-4 haloalkyl group, a halogen atom, or a hydroxy group,

R³, R⁴, and R⁵ each independently represent a hydrogen atom, a C1-4 alkyl group, a C3-6 cycloalkyl group which may be substituted with a halogen, or a C1-4 haloalkyl group,

Z represents (1) a carboxyl group which may be substituted with one C1-8 alkyl group, (2) a hydroxy group which may be substituted with one C1-8 alkyl group, (3) a hydroxamic acid group which may be substituted with one to two C1-8 alkyl groups, (4) a

sulfonic acid group which may be substituted with one C1-8 alkyl group, (5) a boronic acid group which may be substituted with one to two C1-8 alkyl groups, (6) a carbamoyl group which may be substituted with (i) one to two C1-8 alkyl groups or (ii) one to two sulfonyl groups which may be substituted with a C1-4 alkyl group, (7) a sulfamoyl group which may be substituted with (i) one to two C1-8 alkyl groups or (ii) one to two C2-8 acyl groups, (8) a sulfoximine group which may be substituted with one to two C1-8 alkyl groups, or (9) a tetrazolyl group,

ring 2 represents a 3- to 7-membered nitrogen-containing heterocycle,

m represents an integer of 0 to 6,

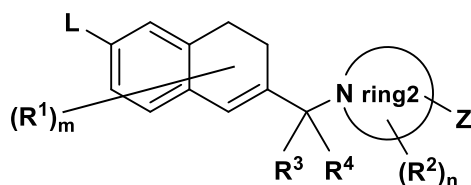
n represents an integer of 0 to 5,

when m is 2 or more, a plurality of R¹s may be the same or different, and

when n is 2 or more, a plurality of R²s may be the same or different,

provided that each hydrogen atom may be a deuterium atom or a tritium atom].

2. The compound or a pharmaceutically acceptable salt thereof according to claim 1, wherein the compound is a compound represented by the general formula (V-1):



(V-1)

[wherein all the symbols represent the same meanings as described in claim 1,

provided that each hydrogen atom may be a deuterium atom or a tritium atom].

3. The compound or a pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein

L is (1) -O-(C2-7 alkyl), (2) -O-(C2-7 alkenyl), (3) -O-(C2-7 alkynyl), (4) -O-(C1-5 alkylene)-OCH₃, (5) -O-(C1-4 alkylene)-OCH₂CH₃, (6) -CH₂O-(C1-6 alkyl), (7) -CH₂O-(C2-6 alkenyl), (8) -CH₂O-(C2-6 alkynyl), (9) -CH₂CH₂O-(C1-5 alkyl), (10) -CH₂CH₂O-(C2-5 alkenyl), (11) -CH₂CH₂O-(C2-5 alkynyl), (12) -S-(C2-7 alkyl), (13) -S-(C2-7 alkenyl), (14) -S-(C2-7 alkynyl), (15) -NR⁶-(C2-7 alkyl), (16) -NR⁶-(C2-7 alkenyl), (17) -NR⁶-(C2-7 alkynyl), (18) a C3-8 alkyl group, (19) a C3-8 alkenyl group, or (20) a C3-8 alkynyl group, and

R⁶ represents a hydrogen atom or a C1-4 alkyl group,

provided that a carbon atom in each group may be substituted with 1 to 13 halogen atoms.

4. The compound or a pharmaceutically acceptable salt thereof according to claim 1 or 2,

wherein L is a branched or linear chain group in which the number of atoms in the main chain is 4 to 7.

5. The compound or a pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein

L is (1) -O-(C3-6 alkyl), (2) -O-(C3-6 alkenyl), (3) -O-(C3-6 alkynyl), (4) -O-(C1-4 alkylene)-OCH₃, (5) -O-(C1-3 alkylene)-OCH₂CH₃, (6) -CH₂O-(C2-5 alkyl), (7) -CH₂O-(C2-5 alkenyl), (8) -CH₂O-(C2-5 alkynyl), (9) -CH₂CH₂O-(C1-4 alkyl), (10) -CH₂CH₂O-(C2-4 alkenyl), (11) -CH₂CH₂O-(C2-4 alkynyl), (12) -S-(C3-6 alkyl), (13) -S-(C3-6 alkenyl), (14) -S-(C3-6 alkynyl), (15) -NR⁶-(C3-6 alkyl), (16) -NR⁶-(C3-6 alkenyl), (17) -NR⁶-(C3-6 alkynyl), (18) a C4-7 alkyl group, (19) a C4-7 alkenyl group, or (20) a C4-7 alkynyl group, and

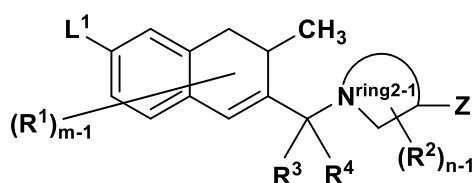
R⁶ represents a hydrogen atom or a C1-4 alkyl group,

provided that a carbon atom in each group may be substituted with 1 to 13 halogen atoms.

6. The compound or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 5, wherein ring 2 is a 3- to 7-membered nitrogen-containing saturated heterocycle.

7. The compound or a pharmaceutically acceptable salt thereof according to claim 1 or 2,

wherein the compound is a compound represented by the general formula (V-2):



(V-2)

[wherein L¹ is a branched or linear chain group composed of atoms selected from a carbon atom, an oxygen atom, a nitrogen atom, and a sulfur atom, in which the number of atoms in the main chain thereof is 4 to 7, and the chain group may contain 1 to 3 heteroatoms selected from an oxygen atom, a nitrogen atom, and a sulfur atom,

provided that a carbon atom in L^1 may be substituted with 1 to 13 halogen atoms,
 ring 2-1 represents a 3- to 7-membered nitrogen-containing saturated heterocycle,
 m-1 represents an integer of 0 to 2,
 n-1 represents an integer of 0 to 2,
 5 when m-1 is 2, a plurality of R^1 's may be the same or different,
 when n-1 is 2, a plurality of R^2 's may be the same or different, and
 the other symbols represent the same meanings as describe in claim 1,
 provided that each hydrogen atom may be a deuterium atom or a tritium atom].

10 8. The compound or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 7, wherein Z is a carboxyl group which may be substituted with one C1-8 alkyl group, or a tetrazolyl group.

9. The compound or a pharmaceutically acceptable salt thereof according to claim 7 or 8,
 15 wherein

L^1 is (1) -O-(C3-6 alkyl), (2) -O-(C3-6 alkenyl), (3) -O-(C3-6 alkynyl), (4) -O-(C1-4 alkylene)-OCH₃, (5) -O-(C1-3 alkylene)-OCH₂CH₃, (6) -CH₂O-(C2-5 alkyl), (7) -CH₂O-(C2-5 alkenyl), (8) -CH₂O-(C2-5 alkynyl), (9) -CH₂CH₂O-(C1-4 alkyl), (10) -CH₂CH₂O-(C2-4 alkenyl), (11) -CH₂CH₂O-(C2-4 alkynyl), (12) -S-(C3-6 alkyl), (13) -S-(C3-6 alkenyl), (14) -S-(C3-6 alkynyl), (15) -NR⁶-(C3-6 alkyl), (16) -NR⁶-(C3-6 alkenyl), (17) -NR⁶-(C3-6 alkynyl), (18) a C4-7 alkyl group, (19) a C4-7 alkenyl group, or (20) a C4-7 alkynyl group, and

R^6 represents a hydrogen atom or a C1-4 alkyl group,
 provided that a carbon atom in each group may be substituted with 1 to 13 halogen
 25 atoms.

10. The compound or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 9, wherein R^1 is a C1-4 alkyl group or a halogen atom.

30 11. The compound or a pharmaceutically acceptable salt thereof according to any one of claims 7 to 10, wherein ring 2-1 is azetidine, pyrrolidine, piperidine, or perhydroazepine.

12. The compound or a pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein the compound is (1) 1-(((3R)-6-butoxy-3-methyl-3,4-dihydronaphthalen-2-

yl)methyl]azetidine-3-carboxylic acid, (2) 1-(((3S)-6-butoxy-3-methyl-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (3) 1-(((3S)-3-methyl-6-pentoxy-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (4) 1-(((3S)-3-methyl-6-(4,4,4-trifluorobutoxy)-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (5) 3-fluoro-1-(((3S)-3-methyl-6-(3,4,4-trifluorobut-3-enoxy)-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (6) 1-(((3S)-3-methyl-6-(1,1,2,2,3,3,4,4,4-nonadeuteriobutoxy)-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (7) (3R)-1-(((3S)-3-methyl-6-(4,4,4-trifluorobutoxy)-3,4-dihydronaphthalen-2-yl)methyl)pyrrolidine-3-carboxylic acid, (8) 1-(((3S)-3-methyl-6-((R)-3,3,3-trifluoro-2-methylpropoxy)-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (9) 1-(((3S)-3-methyl-6-((S)-3,3,3-trifluoro-2-methylpropoxy)-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (10) 3-fluoro-1-(((3S)-3-methyl-6-[(E)-4,4,4-trifluorobut-2-enoxy]-3,4-dihydronaphthalen-2-yl)methyl)azetidine-3-carboxylic acid, (11) 3-fluoro-1-({[(3S)-3-methyl-6-(3,3,3-trifluoropropoxy)-3,4-dihydro-2-naphthalenyl]methyl}-3-azetidinecarboxylic acid, (12) cis-3-({1-[(3S)-3-methyl-6-(4,4,4-trifluorobutoxy)-3,4-dihydro-2-naphthalenyl]ethyl}amino)cyclobutanecarboxylic acid, or (13) 1-({[(3S)-3-methyl-6-(propoxymethyl)-3,4-dihydro-2-naphthalenyl]methyl}-3-azetidinecarboxylic acid.

13. A pharmaceutical composition comprising the compound represented by the general formula (V) or a pharmaceutically acceptable salt thereof according to claim 1.

14. The pharmaceutical composition according to claim 13, which is an S1P₅ agonist.

15. The pharmaceutical composition according to claim 13 or 14, which is a prophylactic and/or therapeutic agent for a S1P₅-mediated disease.

16. The pharmaceutical composition according to claim 15, wherein the S1P₅-mediated disease is a neurodegenerative disease, an autoimmune disease, an infectious disease, or cancer.

17. The pharmaceutical composition according to claim 16, wherein the S1P₅-mediated disease is a neurodegenerative disease, and the neurodegenerative disease is schizophrenia, Binswanger's disease, multiple sclerosis, neuromyelitis optica, Alzheimer-type dementia,

cognitive impairment, amyotrophic lateral sclerosis, spinocerebellar degeneration, multiple system atrophy, Parkinson's disease, or Lewy body dementia.

18. The compound represented by the general formula (V) or a pharmaceutically acceptable salt thereof according to claim 1 for use in the prevention and/or treatment of a S1P₅-mediated disease.

19. Use of the compound represented by the general formula (V) or a pharmaceutically acceptable salt thereof according to claim 1 in the manufacture of a prophylactic and/or therapeutic agent for treating a S1P₅-mediated disease.

20. A compound of formula 1-[[[(3S)-3-methyl-6-(4,4,4-trifluorobutoxy)-3,4-dihydronaphthalen-2-yl]methyl]azetidine-3-carboxylic acid, or a pharmaceutically acceptable salt thereof.

21. A compound of formula 1-[[[(3S)-3-methyl-6-(4,4,4-trifluorobutoxy)-3,4-dihydronaphthalen-2-yl]methyl]azetidine-3-carboxylic acid.