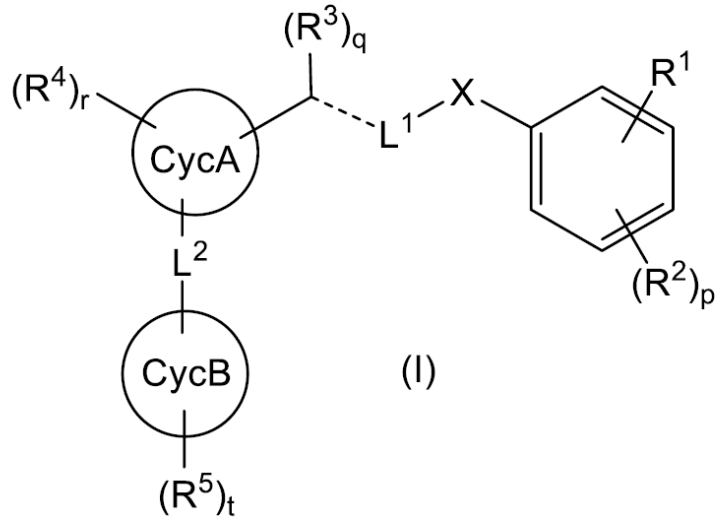
CLAIMS

1. A compound represented by general formula (I)

[Formula 1]

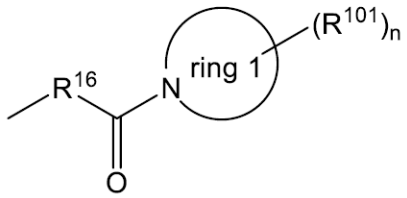


[wherein:

R^1 represents (1) -R^{11}-$COOR^{12}$, (2) -R^{13}-$CONR^{14}R^{15}$, (3) -R^{17}-CN, (4) -R^{18}-$CONHS(O)_2$-R^{19}, (5) -R^{20}-CycD, or

[Formula 2]

(6)



(wherein: ring 1 represents a 3- to 6-membered nitrogen-containing monocyclic saturated heterocyclic ring; R^{101} represents (1) a halogen atom, (2) a C1-4 alkyl group, or (3) a C1-4 haloalkyl group; and n represents an integer of 0 to 3, wherein, when n is 2 or more, a plurality of R^{101}s may be the same as or different from each other);

R^{11}, R^{13}, R^{16}, R^{17}, R^{18} and R^{20} each independently represent (1) a C1-6 alkylene group which may be substituted by 1 to 3 halogen atoms, (2) a C2-6 alkenylene group which may be substituted by 1 to 3 halogen atoms, or (3) a C2-6 alkynylene group which may be substituted by 1 to 3 halogen atoms, wherein, when the alkylene group, the alkenylene group or the alkynylene group is a branched chain, two C1-2 alkyl groups branched from a single carbon atom may together form a C3-5 saturated carbocyclic ring;

R^{12}, R^{14}, R^{15} and R^{19} each independently represent (1) a hydrogen atom, (2) a C1-4 alkyl group or (3) a C1-4 haloalkyl group;

CycD represents triazole or tetrazole;

R^2 represents (1) a halogen atom, (2) a C1-4 alkyl group or (3) a C1-4 haloalkyl group, and p represents an integer of 0 to 3, wherein, when p is 2 or more, a plurality of R^2s may be the same as or different from each other;

X represents (1) CH_2 or (2) an oxygen atom;

L^1 represents (1) a linear C3-7 alkylene group which may be substituted by 1 to 4 R^{L1a}s, (2) a linear C3-7 alkenylene group which may be substituted by 1 to 4 R^{L1a}s, (3) a linear C3-7 alkynylene group which may be substituted by 1 to 4 R^{L1a}s, or (4) (a linear C1-3 alkylene group which may be substituted by 1 to 2 R^{L1a}s)-O-(a linear C1-3 alkylene group which may be substituted by 1 to 2 R^{L1a}s);

R^{L1a} represents (1) a halogen atom, (2) a hydroxyl group, (3) an oxo group or (4) a C1-2 alkyl group, wherein: when there are at least two R^{L1a}s, a plurality of R^{L1a}s may be the same as or different from each other; and when each of two R^{L1a}s bonded to a single carbon atom is a C1-2 alkyl group, the C1-2 alkyl group may form a C3-5 saturated carbocyclic ring in conjunction with the carbon atom to which the C1-2 alkyl group is bonded;

[Formula 3]

represents a single bond, a double bond or a triple bond;

R^3 represents (1) a hydrogen atom, (2) a halogen atom, (3) a hydroxyl group, (4) a C1-2 alkyl group, or (5) a methylidene group, and q represents an integer of 0 to 2, wherein: when

[Formula 4]

is a single bond and q is 2, a plurality of R^3s may be the same as or different from each other; and when at least one of R^3s is a methyl group, the methyl group may form cyclopropane in conjunction with a carbon atom in the adjacent L^1;

CycA represents (1) a C5-10 monocyclic or bicyclic carbocyclic ring or (2) a 5- to 10-membered monocyclic or bicyclic heterocyclic ring;

R^4 represents (1) a halogen atom, (2) a hydroxyl group, (3) a C1-4 alkyl group, (4) a C1-4 haloalkyl group, (5) a C1-4 alkoxy group, (6) a C1-4 haloalkoxy group, (7) a cyano

group, or (8) a -SO_2-C1-2 alkyl group, and r represents an integer of 0 to 6, wherein, when r is 2 or more, a plurality of R^4s may be the same as or different from each other;

L^2 represents -R^{31}-L^3-R^{32}-;

L^3 represents (1) -NR^{201}-S(O)-, (2) -NR^{202}-$S(O)_2$-, (3) -NR^{203}-C(O)-, (4) -CR^{204}(OH)-, (5) -NR^{205}-, (6) -S(O)- or (7) -$S(O)_2$-;

R^{201}, R^{202}, R^{203}, R^{204} and R^{205} each independently represent (1) a hydrogen atom, (2) a C1-4 alkyl group, or (3) a C1-4 haloalkyl group, wherein the alkyl group or the haloalkyl group may be substituted by (1) a hydroxyl group, (2) an oxo group, (3) a C3-6 monocyclic carbocyclic ring, or (4) a 3- to 6-membered monocyclic heterocyclic ring;

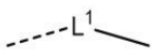
R^{31} and R^{32} each independently represent (1) a bond or (2) a C1-3 alkylene group which may be substituted by 1 to 3 substituents independently selected from the group consisting of a halogen atom, a hydroxyl group and an oxo group;

CycB represents (1) a C5-10 monocyclic or bicyclic carbocyclic ring or (2) a 5- to 10-membered monocyclic or bicyclic heterocyclic ring; and

R^5 represents (1) a halogen atom, (2) a C1-6 alkyl group, (3) a C2-6 alkenyl group, (4) a C2-6 alkynyl group, (5) a C1-6 haloalkyl group, (6) a C2-6 haloalkenyl group, (7) a C2-6 haloalkynyl group, (8) a C1-6 alkoxy group, or (9) a C1-6 haloalkoxy group, and t represents an integer of 0 to 6, wherein, when t is 2 or more, a plurality of R^5s may be the same as or different from each other], or a salt thereof.

2. The compound or the salt thereof according to claim 1, wherein, in general formula (I), the group:

[Formula 5]



represents (1) =CH-(a linear C2-6 alkylene group which may be substituted by 1 to 2 R^{L1a}s)-, (2) -(a linear C3-7 alkylene group which may be substituted by 1 to 2 R^{L1a}s)-, or (3) -(a linear C1-3 alkylene group which may be substituted by 1 to 2 R^{L1a}s)-O-(a linear C1-3 alkylene group which may be substituted by 1 to 2 R^{L1a}s)-, (in (1) to (3), R^{L1a} has the same meaning as mentioned in claim 1).

3. The compound or the salt thereof according to claim 1 or 2, wherein R^1 is -R^{11}-$COOR^{12}$.

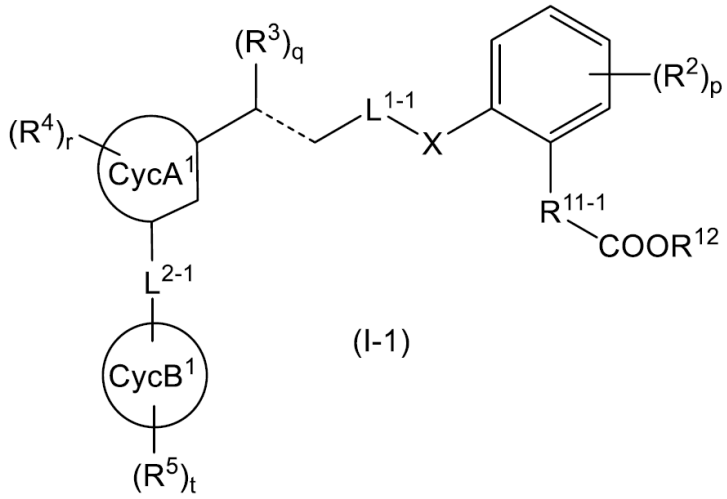
4. The compound or the salt thereof according to any one of claims 1 to 3, wherein L^2 is (1) -NR^{202}-$S(O)_2$- or (2) -CR^{204}(OH)-CH_2-.

5. The compound or the salt thereof according to any one of claims 1 to 4, wherein CycA is a C5-6 monocyclic carbocyclic ring.

6. The compound or the salt thereof according to any one of claims 1 to 5, wherein CycB is a C5-6 monocyclic carbocyclic ring.

7. The compound or the salt thereof according to any one of claims 1 to 6, wherein general formula (I) is general formula (I-1)

[Formula 6]



(I-1)

[wherein: R^{11-1} represents a C2-4 alkylene group; L^{1-1} represents a linear C3-4 alkylene group which may be substituted by 1 to 2 R^{L1a}s; $CycA^1$ and $CycB^1$ each independently represent a C5-6 monocyclic carbocyclic ring; L^{2-1} represents (1) -NH-$S(O)_2$- or (2) -CH(OH)-CH_2-; and other symbols have the same meanings as mentioned in claim 1].

8. The compound or the salt thereof according to any one of claims 1 to 7, wherein X is an oxygen atom.

9. The compound or the salt thereof according to claim 1, wherein the compound or the salt thereof is

(1) 3-[2-[(E,3R)-5-[3-(benzenesulfonamide)phenyl]-3-hydroxypent-4-enoxy]phenyl]propanoic acid,

(2) 3-[2-[(3S)-5-[3-(benzenesulfonamide)phenyl]-3-hydroxypentoxy]phenyl]propanoic acid,

(3) 3-[2-[(3R)-5-[3-(benzenesulfonamide)phenyl]-3-hydroxypentoxy]phenyl]propanoic acid,

(4) 3-[2-[(E,3R)-5-[4-(benzenesulfonamide)phenyl]-3-hydroxypent-4-enoxy]phenyl]propanoic acid,

(5) 3-[2-[(E,3R)-5-[3-(cyclopentylsulfonylamino)phenyl]-3-hydroxypent-4-enoxy]phenyl]propanoic acid,

(6) 3-[2-[(E,3R)-5-[3-(benzenesulfonamide)-2-methylphenyl]-3-hydroxypent-4-enoxy]phenyl]propanoic acid,

(7) 4-[2-[(E,3R)-5-[3-(benzenesulfonamide)phenyl]-3-hydroxypent-4-enoxy]phenyl]butanoic acid,

(8) 3-[2-[(E)-4-[3-(benzenesulfonamide)phenyl]-2-hydroxybut-3-enoxy]phenyl]propanoic acid,

(9) (R)-3-[2-[(E)-6-[3-(benzenesulfonamide)phenyl]-4-hydroxyhex-5-enyl]phenyl]propanoic acid,

(10) (S)-3-[2-[(E)-6-[3-(benzenesulfonamide)phenyl]-4-hydroxyhex-5-enyl]phenyl]propanoic acid,

(11) 3-[2-[(E)-5-[3-(benzenesulfonamide)phenyl]pent-4-enoxy]phenyl]propanoic acid,

(12) 3-[2-[5-[3-(benzenesulfonamide)phenyl]pentoxy]phenyl]propanoic acid,

(13) 3-[2-[(3S)-3-hydroxy-5-[3-[(1R)-1-hydroxy-2-phenylethyl]phenyl]pentoxy]phenyl]propanoic acid,

(14) 3-[2-[(3S)-3-hydroxy-5-[3-[(1S)-1-hydroxy-2-phenylethyl]phenyl]pentoxy]phenyl]propanoic acid,

(15) 3-[2-[2-[2-[3-(benzenesulfonamide)phenyl]ethoxy]ethoxy]phenyl]propanoic acid,

(16) 3-[2-[6-[3-(benzenesulfonamide)phenyl]-4-oxohexyl]phenyl]propanoic acid, or

(17) 3-[2-[5-[3-(benzenesulfonamide)phenyl]-3,3-difluoropentoxy]phenyl]propanoic acid, or

a salt thereof.

10. A pharmaceutical composition comprising the compound represented by general formula (I) or the salt thereof according to claim 1.

11. An agent for Schwann cell differentiation promotion comprising the compound represented by general formula (I) or the salt thereof according to claim 1.

12. A prophylactic and/or therapeutic agent for neuropathy, comprising the compound represented by general formula (I) or the salt thereof according to claim 1.

13. The agent according to claim 12, wherein the neuropathy is peripheral neuropathy.

14. The agent according to claim 13, wherein the peripheral neuropathy is chronic inflammatory demyelinating polyneuropathy, Guillain-Barre syndrome, periarteritis nodosa, allergic vasculitis, diabetic peripheral neuropathy, entrapment neuropathy, peripheral neuropathy associated with the administration of a chemotherapeutic drug, or peripheral neuropathy associated with Charcot-Marie-Tooth disease.

15. Use of an effective amount of the compound represented by general formula (I) or the salt thereof according to claim 1 in the manufacture of a medicament for the preventing or the treating neuropathy in a mammal.

16. The compound represented by general formula (I) or the salt thereof according to claim 1, which is to be used for the prevention and/or treatment of neuropathy.

17. A use of the compound represented by general formula (I) or the salt thereof according to claim 1 for producing a prophylactic and/or therapeutic agent for neuropathy.

18. A compound of 3-[2-[(E)-5-[3-(benzenesulfonamide)phenyl]pent-4-enoxy]phenyl]-propanoic acid.

19. A compound of 3-[2-[(E)-5-[3-(benzenesulfonamide)phenyl]pent-4-enoxy]phenyl]-propanoic acid or a salt thereof.