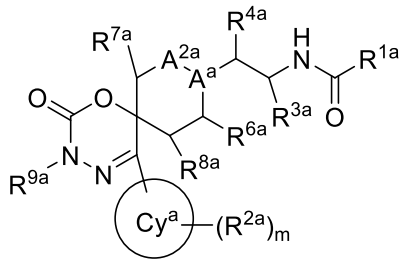
CLAIMS

1. A compound represented by Formula [Ia] or a pharmaceutically acceptable salt thereof:



[Ia]

wherein

A^a is CR^{10a} or N;

A^{2a} is CR^{5a} or O;

Cy^a is

(1) C_{6-10} aryl,

(2) 5 to 10-membered heteroaryl containing one or two nitrogen atoms as a ring constituting atom, besides carbon atom, or

(3) a 9- or 10-membered partially unsaturated fused cyclic group containing one or two oxygen atoms as a ring constituting atom, besides carbon atom;

R^{1a} is

(1) C_{1-6} alkyl wherein the alkyl is optionally substituted by

(a) hydroxy,

(b) cyano,

(c) SO_2R^{11} wherein R^{11} is C_{1-4} alkyl, or

(d) $NHCOR^{12}$ wherein R^{12} is C_{1-4} alkyl,

(2) C_{2-4} alkenyl wherein the alkenyl is optionally substituted by 1 to 3 of

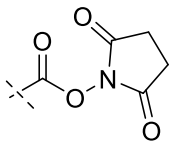
(a) $NR^{13}R^{14}$ wherein R^{13} and R^{14} are each independently hydrogen or C_{1-4} alkyl,

(b) halogen,

(c) COR^{35a} wherein R^{35a} is hydroxy or C_{1-4} alkoxy,

(d) $CONR^{36a}R^{37a}$ wherein R^{36a} and R^{37a} are each independently hydrogen or C_{1-4} alkyl, or

(e) a partial structural formula:



,

(3) C_{1-4} haloalkyl wherein the haloalkyl is optionally substituted by hydroxy,

(4) C_{1-6} alkoxy wherein the alkoxy is optionally substituted by phenyl,

(5) $NR^{15}R^{16}$ wherein R^{15} and R^{16} are each independently

(a) hydrogen,

(b) C_{1-4} alkyl wherein the alkyl is optionally substituted by

(i) phenyl wherein the phenyl is optionally substituted by halogen, or

(ii) pyridyl,

(c) C_{1-4} alkoxy, or

(d) C_{3-4} cycloalkyl,

(6) COR^{17a} wherein R^{17a} is C_{1-4} alkyl or hydroxy,

(7) $CONR^{18a}R^{19a}$ wherein R^{18a} and R^{19a} are each independently

(a) hydrogen,

(b) C_{1-4} alkyl wherein the alkyl is optionally substituted by hydroxy,

(c) C_{3-4} cycloalkyl,

(d) C_{5-8} bridged cycloalkyl,

(e) C_{1-4} haloalkyl, or

(f) C_{1-4} alkoxy,

(8) C_{3-4} cycloalkyl wherein the cycloalkyl is optionally substituted by

(a) hydroxy,

(b) halogen, or

(c) phenyl,

(9) 4 to 7-membered heterocycloalkyl containing one or two heteroatoms selected from the group consisting of nitrogen and

oxygen atoms as a ring constituting atom, besides carbon atom, wherein the heterocycloalkyl is optionally substituted by

(a) hydroxy,

(b) oxo,

(c) $NR^{20}R^{21}$ wherein R^{20} and R^{21} are each independently hydrogen or C_{1-4} alkyl, or

(d) phenyl,

(10) 6 to 11-membered spiro heterocycloalkyl containing one or two heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom,

(11) phenyl wherein the phenyl is optionally substituted by one or two of

(a) halogen, or

(b) C_{1-4} haloalkyl,

(12) 5 to 10-membered heteroaryl containing 1 to 3 heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, wherein the heteroaryl is optionally substituted by one or two R^{22a},

(13) a 8 to 10-membered saturated or partially unsaturated fused cyclic group containing 1 to 4 heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, wherein the fused cyclic group is optionally substituted by C_{1-4} haloalkyl, or

(14) a 5 to 7-membered partially unsaturated cyclic group containing one or two nitrogen atoms as a ring constituting atom, besides carbon atom, wherein the partially unsaturated cyclic group is optionally substituted by an oxo group and C_{1-4} alkyl;

R^{2a} in the number of m are each independently

(1) hydroxy,

(2) cyano,

(3) halogen,

(4) C_{1-6} alkyl wherein the alkyl is optionally substituted by

(a) hydroxy, or

(b) C_{3-4} cycloalkyl,

(5) C_{2-4} alkenyl wherein the alkenyl is optionally substituted by C_{1-4} alkoxy,

(6) C_{1-4} haloalkyl,

(7) C_{1-4} alkoxy wherein the alkoxy is optionally substituted by 1 to 3 substituents selected from the group consisting of

(a) hydroxy, and

(b) halogen,

(8) SR^{23a} wherein R^{23a} is C_{1-4} alkyl or C_{1-4} haloalkyl,

(9) COR^{24a} wherein R^{24a} is

(a) hydroxy,

(b) C_{1-4} alkyl, or

(c) C_{1-4} alkoxy,

(10) $CONR^{25a}R^{26a}$ wherein R^{25a} and R^{26a} are each independently

(a) hydrogen,

(b) C_{1-6} alkyl, or

(c) C_{3-4} cycloalkyl, or

R^{25a} and R^{26a} are bonded to each other to form 4 to 7-membered heterocycloalkyl together with the nitrogen atom to which they are bonded, wherein the heterocycloalkyl contains one or two heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, and is optionally substituted by one or two halogens,

(11) SO_2R^{27} wherein R^{27} is C_{1-6} alkyl,

(12) C_{3-4} cycloalkyl,

(13) 4 to 7-membered heterocycloalkyl containing one or two heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, wherein the heterocycloalkyl is optionally substituted by one or two substituents selected from the group consisting of

(a) halogen,

(b) C_{1-4} alkyl, and

(c) C_{1-4} haloalkyl,

(14) 5 to 9-membered bridged heterocycloalkyl containing one or two heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom,

(15) 6 to 11-membered spiro heterocycloalkyl containing one or two heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, or

(16) phenyl;

R^{3a} is

(1) hydrogen,

(2) C_{1-4} alkyl, or

(3) C_{1-4} haloalkyl;

R^{4a} is

(1) hydrogen,

(2) C_{1-4} alkyl, or

(3) cyano;

R^{5a} is hydrogen or C_{1-4} alkyl;

the combination of R^{6a}, R^{7a} and R^{8a} is

(1) a combination where R^{6a} is hydrogen or C_{1-4} alkyl, and R^{7a} and R^{8a} are both hydrogens,

(2) a combination where R^{6a} is hydrogen or C_{1-4} alkyl, and R^{7a} and R^{8a} are bonded to each other to form a cyclopentane ring together with the spiro carbon atom and the carbon atoms to which they are bonded, or

(3) a combination where R^{6a} and R^{7a} are bonded to each other to form a cyclopentane ring together with the spiro carbon atom and the carbon atoms to which they are bonded, and R^{8a} is hydrogen;

R^{9a} is

(1) hydrogen,

(2) $CONHR^{28}$ wherein R^{28} is C_{3-4} cycloalkyl, or

(3) C_{1-4} alkyl;

R^{10a} is

(1) hydrogen,

(2) hydroxy,

(3) halogen,

(4) C_{1-4} alkyl,

(5) cyano, or

(6) C_{1-4} alkoxy;

one or two R^{22a} are each independently

(1) halogen,

(2) C_{1-4} alkyl,

(3) C_{1-4} haloalkyl,

(4) C_{1-4} alkoxy,

(5) $NHCOR^{29}$ wherein R^{29} is C_{1-4} alkyl,

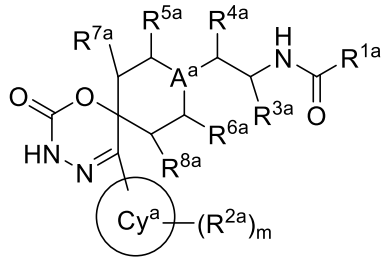
(6) SO_2R^{30} wherein R^{30} is C_{1-4} alkyl,

(7) cyano, or

(8) C_{3-4} cycloalkyl; and

m is 0, 1, 2 or 3.

2. The compound according to Claim 1 or a pharmaceutically acceptable salt thereof, which is represented by Formula [IIa]:

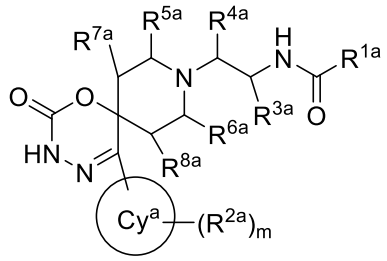


[IIa]

wherein

A^a, Cy^a, R^{1a}, R^{2a}, R^{3a}, R^{4a}, R^{5a}, R^{6a}, R^{7a}, R^{8a} and m are as defined in Claim 1.

3. The compound according to Claim 1 or a pharmaceutically acceptable salt thereof, which is represented by Formula [IIIa]:

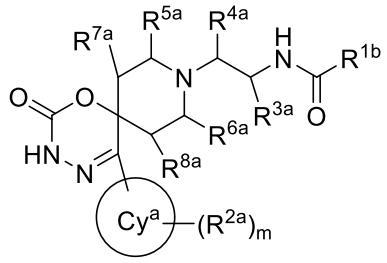


[IIIa]

wherein

Cy^a, R^{1a}, R^{2a}, R^{3a}, R^{4a}, R^{5a}, R^{6a}, R^{7a}, R^{8a} and m are as defined in Claim 1.

4. The compound according to Claim 1 or a pharmaceutically acceptable salt thereof, which is represented by Formula [IVa]:



[IVa]

wherein

R^{1b} is

(1) C_{1-6} alkyl wherein the alkyl is optionally substituted by

(a) hydroxy,

(b) cyano,

(c) SO_2R^{11} wherein R^{11} is C_{1-4} alkyl, or

(d) $NHCOR^{12}$ wherein R^{12} is C_{1-4} alkyl,

(2) C_{2-4} alkenyl wherein the alkenyl is optionally substituted by 1 to 3 of

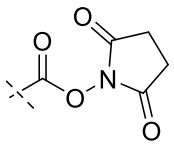
(a) $NR^{13}R^{14}$ wherein R^{13} and R^{14} are each independently hydrogen or C_{1-4} alkyl,

(b) halogen,

(c) COR^{35a} wherein R^{35a} is hydroxy or C_{1-4} alkoxy,

(d) $CONR^{36a}R^{37a}$ wherein R^{36a} and R^{37a} are each independently hydrogen or C_{1-4} alkyl, or

(e) a partial structural formula:



,

(3) C_{1-6} alkoxy wherein the alkoxy is optionally substituted by phenyl,

(4) $NR^{15}R^{16}$ wherein R^{15} and R^{16} are each independently

(a) hydrogen,

(b) C_{1-4} alkyl wherein the alkyl is optionally substituted by

(i) phenyl wherein the phenyl is optionally substituted by halogen, or

(ii) pyridyl,

(c) C_{1-4} alkoxy, or

(d) C_{3-4} cycloalkyl,

(5) $CONR^{18a}R^{19a}$ wherein R^{18a} and R^{19a} are each independently

(a) hydrogen,

(b) C_{1-4} alkyl wherein the alkyl is optionally substituted by hydroxy,

(c) C_{3-4} cycloalkyl,

(d) C_{5-8} bridged cycloalkyl,

(e) C_{1-4} haloalkyl, or

(f) C_{1-4} alkoxy,

(6) 6 to 11-membered spiro heterocycloalkyl containing one or two heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom,

(7) 5 to 10-membered heteroaryl containing 1 to 3 heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, wherein the heteroaryl is optionally substituted by one or two R^{22a},

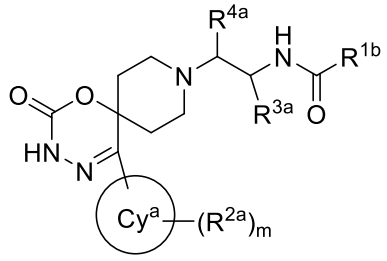
(8) a 8 to 10-membered saturated or partially unsaturated fused cyclic group containing 1 to 4 heteroatoms selected from the

group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, wherein the fused cyclic group is optionally substituted by C_{1-4} haloalkyl, or

(9) a 5 to 7-membered partially unsaturated cyclic group containing one or two nitrogen atoms as a ring constituting atom, besides carbon atom, wherein the partially unsaturated cyclic group is optionally substituted by an oxo group and C_{1-4} alkyl; and

Cy^a, R^{2a}, R^{3a}, R^{4a}, R^{5a}, R^{6a}, R^{7a}, R^{8a}, R^{22a} and m are as defined in Claim 1.

5. The compound according to Claim 4 or a pharmaceutically acceptable salt thereof, which is represented by Formula [Va]:



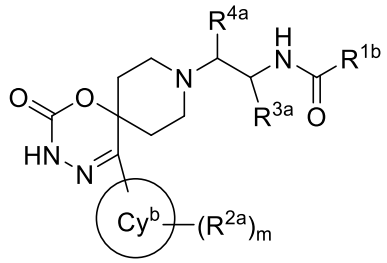
[Va]

wherein

Cy^a, R^{2a}, R^{3a}, R^{4a} and m are as defined in Claim 1; and

R^{1b} is as defined in Claim 4.

6. The compound according to Claim 4 or a pharmaceutically acceptable salt thereof, which is represented by Formula [VIa]:



[VIa]

wherein

Cy^b is

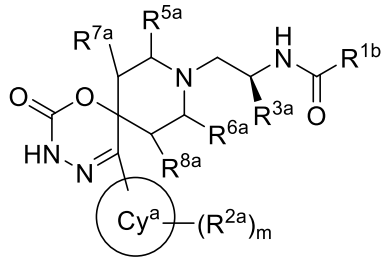
(1) C_{6-10} aryl, or

(2) 5- or 6-membered heteroaryl containing one or two nitrogen atoms as a ring constituting atom, besides carbon atom;

R^{1b} is as defined in Claim 4; and

R^{2a}, R^{3a}, R^{4a} and m are as defined in Claim 1.

7. The compound according to Claim 4 or a pharmaceutically acceptable salt thereof, which is represented by Formula [VIIa]:



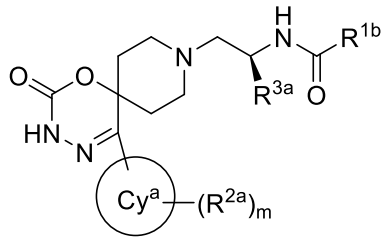
[VIIa]

wherein

Cy^a, R^{2a}, R^{3a}, R^{5a}, R^{6a}, R^{7a}, R^{8a} and m are as defined in Claim 1; and

R^{1b} is as defined in Claim 4.

8. The compound according to Claim 4 or a pharmaceutically acceptable salt thereof, which is represented by Formula [VIIIa]:



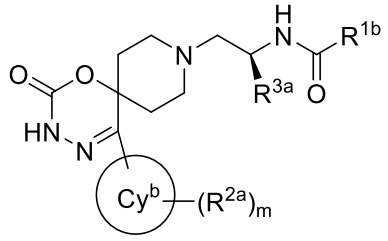
[VIIIa]

wherein

Cy^a, R^{2a}, R^{3a} and m are as defined in Claim 1; and

R^{1b} is as defined in Claim 4.

9. The compound according to Claim 6 or a pharmaceutically acceptable salt thereof, which is represented by Formula [IXa]:



[IXa]

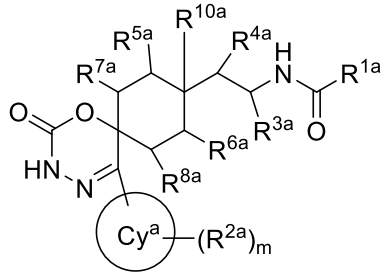
wherein

Cy^b is as defined in Claim 6;

R^{1b} is as defined in Claim 4; and

R^{2a}, R^{3a} and m are as defined in Claim 1.

10. The compound according to Claim 1 or a pharmaceutically acceptable salt thereof, which is represented by Formula [Xa]:

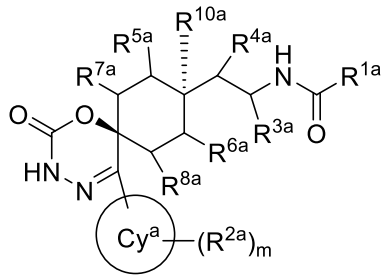


[Xa]

wherein

Cy^a, R^{1a}, R^{2a}, R^{3a}, R^{4a}, R^{5a}, R^{6a}, R^{7a}, R^{8a}, R^{10a} and m are as defined in Claim 1.

11. The compound according to Claim 1 or a pharmaceutically acceptable salt thereof, which is represented by Formula [XIa]:

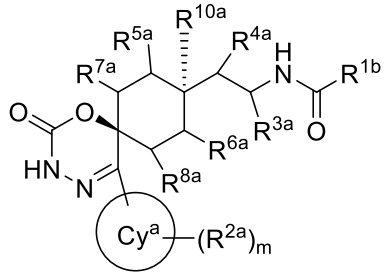


[XIa]

wherein

Cy^a, R^{1a}, R^{2a}, R^{3a}, R^{4a}, R^{5a}, R^{6a}, R^{7a}, R^{8a}, R^{10a} and m are as defined in Claim 1.

12. The compound according to Claim 1 or a pharmaceutically acceptable salt thereof, which is represented by Formula [XIIa]:



[XIIa]

wherein

R^{1b} is

(1) C_{1-6} alkyl wherein the alkyl is optionally substituted by

(a) hydroxy,

(b) cyano,

(c) SO_2R^{11} wherein R^{11} is C_{1-4} alkyl, or

(d) $NHCOR^{12}$ wherein R^{12} is C_{1-4} alkyl,

(2) C_{2-4} alkenyl wherein the alkenyl is optionally substituted by 1 to 3 of

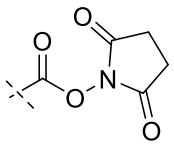
(a) $NR^{13}R^{14}$ wherein R^{13} and R^{14} are each independently hydrogen or C_{1-4} alkyl,

(b) halogen,

(c) COR^{35a} wherein R^{35a} is hydroxy or C_{1-4} alkoxy,

(d) $CONR^{36a}R^{37a}$ wherein R^{36a} and R^{37a} are each independently hydrogen or C_{1-4} alkyl, or

(e) a partial structural formula:



,

(3) C_{1-6} alkoxy wherein the alkoxy is optionally substituted by phenyl,

(4) $NR^{15}R^{16}$ wherein R^{15} and R^{16} are each independently

(a) hydrogen,

(b) C_{1-4} alkyl wherein the alkyl is optionally substituted by

(i) phenyl wherein the phenyl is optionally substituted by halogen, or

(ii) pyridyl,

(c) C_{1-4} alkoxy, or

(d) C_{3-4} cycloalkyl,

(5) $CONR^{18a}R^{19a}$ wherein R^{18a} and R^{19a} are each independently

(a) hydrogen,

(b) C_{1-4} alkyl wherein the alkyl is optionally substituted by hydroxy,

(c) C_{3-4} cycloalkyl,

(d) C_{5-8} bridged cycloalkyl,

(e) C_{1-4} haloalkyl, or

(f) C_{1-4} alkoxy,

(6) 6 to 11-membered spiro heterocycloalkyl containing one or two heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom,

(7) 5 to 10-membered heteroaryl containing 1 to 3 heteroatoms selected from the group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, wherein the heteroaryl is optionally substituted by one or two R^{22a},

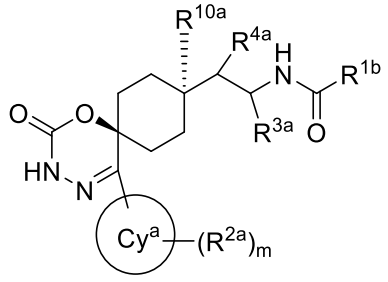
(8) a 8 to 10-membered saturated or partially unsaturated fused cyclic group containing 1 to 4 heteroatoms selected from the

group consisting of nitrogen and oxygen atoms as a ring constituting atom, besides carbon atom, wherein the fused cyclic group is optionally substituted by C_{1-4} haloalkyl, or

(9) a 5 to 7-membered partially unsaturated cyclic group containing one or two nitrogen atoms as a ring constituting atom, besides carbon atom, wherein the partially unsaturated cyclic group is optionally substituted by an oxo group and C_{1-4} alkyl; and

Cy^a, R^{2a}, R^{3a}, R^{4a}, R^{5a}, R^{6a}, R^{7a}, R^{8a}, R^{10a}, R^{22a} and m are as defined in Claim 1.

13. The compound according to Claim 12 or a pharmaceutically acceptable salt thereof, which is represented by Formula [XIIIa]:



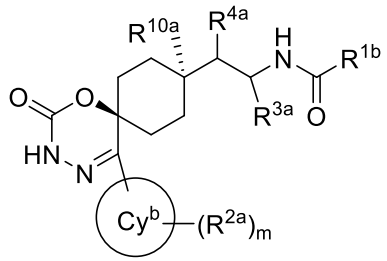
[XIIIa]

wherein

Cy^a, R^{2a}, R^{3a}, R^{4a}, R^{10a} and m are as defined in Claim 1; and

R^{1b} is as defined in Claim 12.

14. The compound according to Claim 12 or a pharmaceutically acceptable salt thereof, which is represented by Formula [XIVa]:



[XIVa]

wherein

Cy^b is

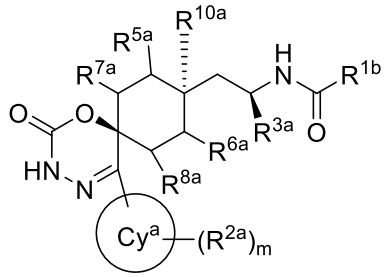
(1) C_{6-10} aryl, or

(2) 5- or 6-membered heteroaryl containing one or two nitrogen atoms as a ring constituting atom, besides carbon atom;

R^{1b} is as defined in Claim 12; and

R^{2a}, R^{3a}, R^{4a}, R^{10a} and m are as defined in Claim 1.

15. The compound according to Claim 12 or a pharmaceutically acceptable salt thereof, which is represented by Formula [XVa]:



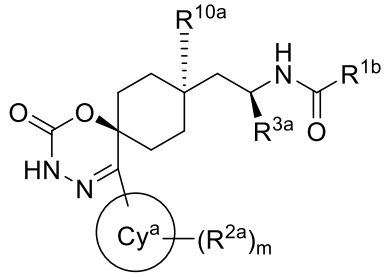
[XVa]

wherein

Cy^a, R^{2a}, R^{3a}, R^{5a}, R^{6a}, R^{7a}, R^{8a}, R^{10a} and m are as defined in Claim 1; and

R^{1b} is as defined in Claim 12.

16. The compound according to Claim 12 or a pharmaceutically acceptable salt thereof, which is represented by Formula [XVIa]:



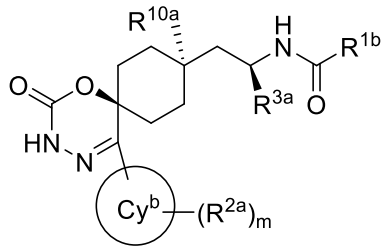
[XVIa]

wherein

Cy^a, R^{2a}, R^{3a}, R^{10a} and m are as defined in Claim 1; and

R^{1b} is as defined in Claim 12.

17. The compound according to Claim 14 or a pharmaceutically acceptable salt thereof, which is represented by Formula [XVIIa]:



[XVIIa]

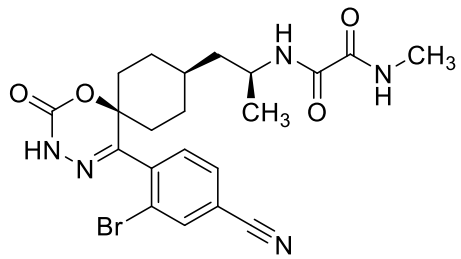
wherein

Cy^b is as defined in Claim 14;

R^{1b} is as defined in Claim 12; and

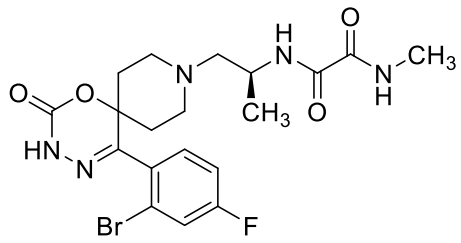
R^{2a}, R^{3a}, R^{10a} and m are as defined in Claim 1.

18. A compound represented by the formula:



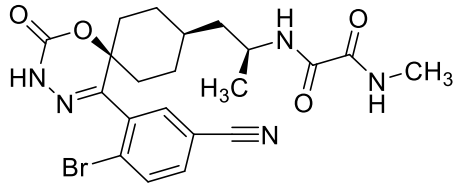
or a pharmaceutically acceptable salt thereof.

19. A compound represented by the formula:



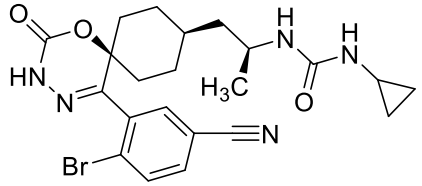
or a pharmaceutically acceptable salt thereof.

20. A compound represented by the formula:



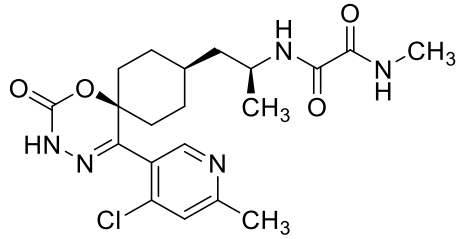
or a pharmaceutically acceptable salt thereof.

21. A compound represented by the formula:



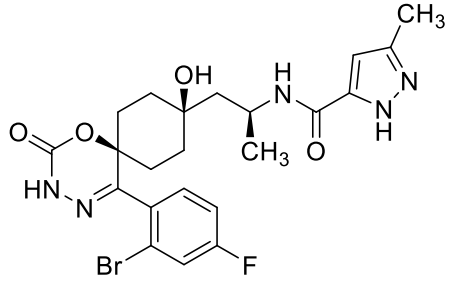
or a pharmaceutically acceptable salt thereof.

22. A compound represented by the formula:



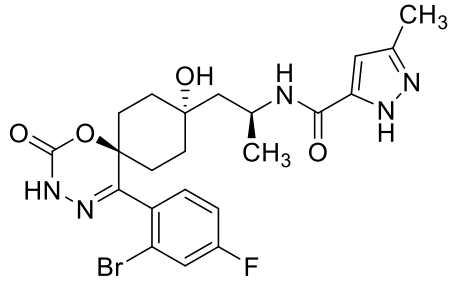
or a pharmaceutically acceptable salt thereof.

23. A compound represented by the formula:



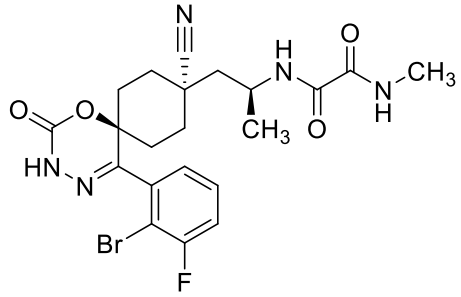
or a pharmaceutically acceptable salt thereof.

24. A compound represented by the formula:



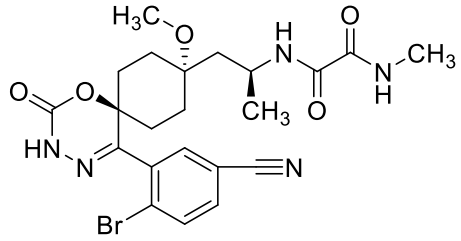
or a pharmaceutically acceptable salt thereof.

25. A compound represented by the formula:



or a pharmaceutically acceptable salt thereof.

26. A compound represented by the formula:



or a pharmaceutically acceptable salt thereof.

27. A pharmaceutical composition comprising a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

28. A PLD inhibitor comprising a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof.

29. A PLD1 inhibitor comprising a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof.

30. A PLD1/2 inhibitor comprising a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof.

31. An agent for the treatment or prophylaxis of a disease selected from the group consisting of thrombosis and cancer, comprising a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof.

32. A method for inhibiting PLD in a mammal, comprising administering a therapeutically effective amount of a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof to the mammal.

33. A method for inhibiting PLD1 in a mammal, comprising administering a therapeutically effective amount of a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof to the mammal.

34. A method for inhibiting PLD1/2 in a mammal, comprising administering a therapeutically effective amount of a compound

as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof to the mammal.

35. A method for treating or preventing a disease selected from the group consisting of thrombosis and cancer in a mammal, comprising administering a therapeutically effective amount of a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof to the mammal.

36. Use of a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for the manufacture of a PLD inhibitor.

37. Use of a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for the manufacture of a PLD1 inhibitor.

38. Use of a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for the manufacture of a PLD1/2 inhibitor.

39. Use of a compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for the manufacture of an agent for the treatment or prophylaxis of a disease selected from the group consisting of thrombosis and cancer.

40. A compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for use in the inhibition of PLD.

41. A compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for use in the inhibition of PLD1.

42. A compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for use in the inhibition of PLD1/2.

43. A compound as defined in any one of Claims 1 to 26, or a pharmaceutically acceptable salt thereof, for use in the treatment or prophylaxis of a disease selected from the group consisting of thrombosis and cancer.