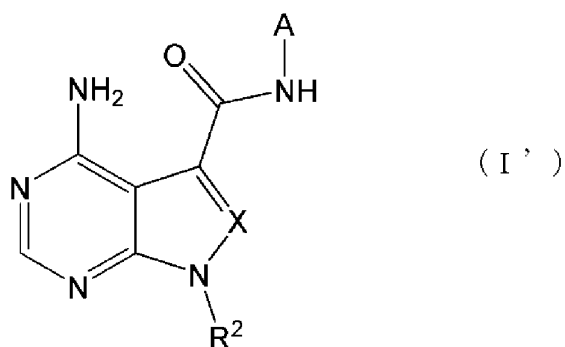


CLAIMS

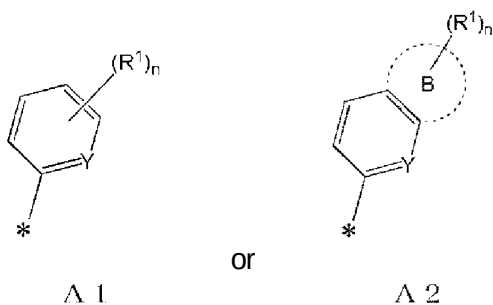
[Claim 1]

A compound represented by Formula (I') below or a salt thereof:



5

wherein in Formula (I'), A is



wherein R¹ is

halogen,

10 cyano,

nitro,

substituted or unsubstituted C1-C6 alkyl,

substituted or unsubstituted C1-C6 alkoxy,

substituted or unsubstituted C2-C6 alkenyl,

15 substituted or unsubstituted C2-C6 alkynyl,

substituted or unsubstituted amino, or

a substituted or unsubstituted 4- to 10-membered monocyclic or

polycyclic unsaturated heterocyclic group containing 1 to 3

identical or different heteroatoms selected from nitrogen, oxygen,

20 and sulfur,

Y is N or CH, and

n is an integer of 0 to 2,

wherein when n is 2, the two R¹ may be identical or different from

each other;

in Formula A2, the group:



forms, together with phenyl or pyridinyl to which this group is
5 bonded, polycyclic C8-C14 aromatic hydrocarbon or an 8- to 14-
membered polycyclic unsaturated heterocyclic group containing 1
to 3 identical or different heteroatoms selected from nitrogen,
oxygen, and sulfur;

R² is

- 10 substituted or unsubstituted C3-C10 alkyl,
substituted or unsubstituted C3-C4 cycloalkyl,
substituted or unsubstituted C4-C12 bridged cycloalkyl,
substituted or unsubstituted C2-C6 alkenyl,
substituted or unsubstituted C3-C4 cycloalkenyl, or
15 a substituted or unsubstituted 4- to 10-membered monocyclic or
polycyclic saturated heterocyclic group containing 1 to 3
identical or different heteroatoms selected from nitrogen, oxygen,
and sulfur,
provided that when each group represented by R² has a substituent,
20 the substituent must not be a substituted or unsubstituted
saturated heterocyclic group that may have at least one identical
or different heteroatom selected from oxygen and sulfur, and has
at least one nitrogen atom; and

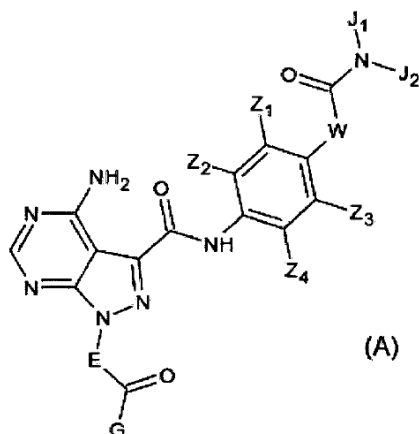
X is

- 25 N or

CR³, wherein R³ is

- hydrogen,
halogen,
cyano,
30 nitro,
substituted or unsubstituted C1-C6 alkyl,
substituted or unsubstituted C1-C6 alkoxy,
substituted or unsubstituted C1-C6 alkylthio,

substituted or unsubstituted C3-C7 cycloalkyl,
substituted or unsubstituted C2-C6 alkenyl,
substituted or unsubstituted C2-C6 alkynyl,
substituted or unsubstituted amino,
5 substituted or unsubstituted carbamoyl,
substituted or unsubstituted C6-C14 aromatic
hydrocarbon, or
a substituted or unsubstituted 4- to 10-membered
monocyclic or polycyclic saturated or unsaturated heterocyclic
10 group containing 1 to 3 identical or different heteroatoms
selected from nitrogen, oxygen, and sulfur,
provided that the compounds is not represented by the
following formula (A):



15 wherein E represents an optionally substituted 4- to 10- membered
nitrogen-containing saturated heterocyclic group;

G represents $-C(R_4)=C(R_5)(R_6)$;

20 Z₁, Z₂, Z₃, and Z₄ are a hydrogen atom, or at least three of Z₁,
Z₂, Z₃, and Z₄ are a hydrogen atom and the remaining Z is a halogen atom,
a cyano group, a C2-C6 alkenyl group, an optionally substituted C1-C6
alkoxy group, an optionally substituted C1-C6 alkyl group, an
optionally substituted amino group, or a 4- to 10-membered unsaturated
heterocyclic group;

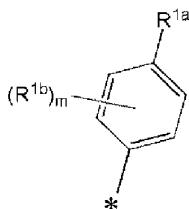
W represents -CH₂-, an oxygen atom, or -NH-;

J₁ and J₂ are the same as or different from each other and each represent a hydrogen atom, an optionally substituted C1-C6 alkoxy group, an optionally substituted C1-C6 alkyl group, or an optionally substituted C6-C14 aromatic hydrocarbon group, or J₁ and J₂ optionally form, together with the nitrogen atom bonded thereto, an optionally substituted 4- to 8-membered nitrogen-containing saturated heterocyclic group; and

R₄, R₅, and R₆ are the same as or different from each other and each represent a hydrogen atom or an optionally substituted C1-C6 alkyl group.

[Claim 2]

The compound or a salt thereof according to claim 1, wherein when A is A1, A1 is



wherein R^{1a} is

C1-C6 alkyl that may be substituted with C1-C6 alkoxy or C1-C6 alkylthio, wherein hydrogen contained in the C1-C6 alkoxy may be replaced by 1 or more deuterium atoms,
C2-C6 alkenyl,
C2-C6 alkynyl,
amino that may be substituted with one or more 4- to 10-membered monocyclic or polycyclic unsaturated heterocyclic groups containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, or C6-C14 aromatic hydrocarbon, or
a 4- to 10-membered monocyclic or polycyclic unsaturated heterocyclic group containing 1 to 3 identical or different

heteroatoms selected from nitrogen, oxygen, and sulfur;
R^{1b} is halogen, C1-C6 alkyl, or C1-C6 alkoxy; and
m is an integer of 0 or 1.

5 [Claim 3]

The compound or a salt thereof according to claim 1 or
2, wherein R² is
C3-C10 alkyl that may be substituted with halogen, C3-C7
cycloalkyl, or one or more 4- to 10-membered monocyclic or
10 polycyclic unsaturated heterocyclic groups containing 1 to 3
identical or different heteroatoms selected from nitrogen, oxygen,
and sulfur,
C3-C4 cycloalkyl that may be substituted with C1-C6 alkyl, C3-C7
cycloalkyl, or halogeno C1-C6 alkyl,
15 C4-C12 bridged cycloalkyl, or
C3-C4 cycloalkenyl.

[Claim 4]

The compound or a salt thereof according to any one of
20 claims 1 to 3, wherein when X is CR³, R³ is
hydrogen,
halogen,
cyano,
C1-C4 alkyl that may be substituted with hydroxy or oxo,
25 C1-C6 alkoxy that may be substituted with
halogen,
C1-C6 alkoxy,
C3-C7 cycloalkyl, or
one or more 4- to 10-membered monocyclic saturated
30 heterocyclic groups that may be substituted with oxo and contain
1 to 3 identical or different heteroatoms selected from nitrogen,
oxygen, and sulfur,
C1-C4 alkylthio,
C3-C5 cycloalkyl,
35 C2-C6 alkenyl that may be substituted with hydroxy,

C2-C6 alkynyl that may be substituted with

hydroxy,

C1-C6 alkoxy,

amino that may be substituted with R⁴, wherein R⁴ is

5 C1-C6 alkyl, C1-C4 alkoxy C1-C6 alkyl, or carbamoyl that may be substituted with C3-C7 cycloalkyl,

C1-C6 alkylsilyloxy,

C3-C7 cycloalkyl that may be substituted with hydroxy or oxo,

10 C6-C14 aromatic hydrocarbon that may be substituted with R⁵, wherein R⁵ is halogen, C1-C4 alkylamino that may be substituted with one or more 4- to 10-membered monocyclic unsaturated heterocyclic groups containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur,
15 or C1-C6 alkoxy,

one or more 4- to 10-membered monocyclic saturated heterocyclic groups that may be substituted with R⁶ and contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, wherein R⁶ is hydroxy, C1-C6 alkyl, C1-C6
20 alkoxy, or oxo,

one or more 4- to 10-membered monocyclic or polycyclic unsaturated heterocyclic groups that may be substituted with R⁷ and contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, wherein R⁷ is halogen, cyano,
25 C1-C6 alkyl, C1-C6 alkoxy, or amino, or

unsaturated heterocyclic oxy that may be substituted with halogen, wherein the unsaturated heterocyclic ring is a 4- to 10-membered monocyclic or polycyclic unsaturated heterocyclic ring containing 1 to 3 identical or different heteroatoms
30 selected from nitrogen, oxygen, and sulfur,

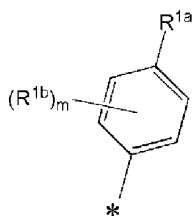
provided that the position of the triple bond of the C2-C6 alkynyl is disposed between the carbon atom bonded to the 7H-pyrrolo[2,3-d]pyrimidine skeleton and a carbon atom adjacent to the carbon atom,

35 C6-C14 aromatic hydrocarbon that may be substituted with

hydroxy,
C1-C6 alkyl that may be substituted with hydroxy,
formyl, or
one or more 4- to 10-membered monocyclic saturated
5 heterocyclic groups that may be substituted with C1-C6 alkyl and
contain 1 to 3 identical or different heteroatoms selected from
nitrogen, oxygen, and sulfur, or
a 4- to 6-membered monocyclic unsaturated heterocyclic group that
may be substituted with
10 halogen,
C1-C6 alkyl that may be substituted with hydroxy, or
amino that may be substituted with C1-C6
alkyl(carbonyl),
and contains 1 to 3 identical or different heteroatoms selected
15 from nitrogen, oxygen, and sulfur.

[Claim 5]

The compound or a salt thereof according to any one of
claims 1 to 4, wherein A is



20 wherein R^{1a} is
C1-C6 alkyl that may be substituted with C1-C6 alkoxy or C1-C6
alkylthio, wherein hydrogen contained in the C1-C6 alkoxy may be
replaced by 1 or more deuterium atoms,
25 C2-C6 alkenyl,
C2-C6 alkynyl,
amino that may be substituted with one or more 4- to 6-membered
monocyclic unsaturated heterocyclic groups containing 1 to 3
identical or different heteroatoms selected from nitrogen, oxygen,
30 and sulfur, or C6-C10 aromatic hydrocarbon, or
a 4- to 6-membered monocyclic unsaturated heterocyclic group

containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur;

R^{1b} is halogen, C1-C6 alkyl, or C1-C6 alkoxy;

m is an integer of 0 or 1;

5 R² is

C3-C10 alkyl that may be substituted with halogen, C3-C7 cycloalkyl, or one or more 4- to 10-membered monocyclic or polycyclic unsaturated heterocyclic groups containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen,
10 and sulfur,

C3-C4 cycloalkyl that may be substituted with C1-C6 alkyl, C3-C7 cycloalkyl, or halogeno C1-C6 alkyl, or C4-C12 bridged cycloalkyl; and

X is

15 N or

CR³, wherein R³ is

hydrogen,

halogen,

cyano,

20 C1-C4 alkyl,

C1-C6 alkoxy that may be substituted with

halogen,

C1-C6 alkoxy,

C3-C7 cycloalkyl, or

25 one or more 4- to 10-membered monocyclic saturated heterocyclic groups that may be substituted with oxo and contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur,

C1-C4 alkylthio,

30 C3-C5 cycloalkyl,

C2-C4 alkenyl that may be substituted with hydroxy,

C2-C6 alkynyl that may be substituted with

hydroxy,

C1-C4 alkoxy,

35 amino that may be substituted with R⁴, wherein R⁴ is

C1-C4 alkyl, C1-C4 alkoxy C1-C4 alkyl, or carbamoyl that may be substituted with C3-C5 cycloalkyl,

tri-C1-C6 alkylsilyloxy,

C3-C7 cycloalkyl that may be substituted with

5 hydroxy or oxo,

phenyl that may be substituted with R⁵, wherein R⁵ is halogen, methylamino that may be substituted with one or more 4- to 6-membered monocyclic unsaturated heterocyclic groups containing 1 to 3 identical or different heteroatoms selected

10 from nitrogen, oxygen, and sulfur, or C1-C4 alkoxy,

one or more 4- to 6-membered monocyclic saturated heterocyclic groups that may be substituted with R⁶ and contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, wherein R⁶ is hydroxy, C1-C4 alkyl, C1-C4 alkoxy, or oxo,

15 one or more 4- to 10-membered monocyclic or bicyclic unsaturated heterocyclic groups that may be substituted with R⁷ and contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, wherein R⁷ is halogen, cyano, C1-C4 alkyl, C1-C4 alkoxy, or amino, or

20 unsaturated heterocyclic oxy that may be substituted with halogen, wherein the unsaturated heterocyclic ring is a 4- to 6-membered monocyclic unsaturated heterocyclic ring containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur,

25 provided that the position of the triple bond of the C2-C6 alkynyl is disposed between the carbon atom bonded to the 7H-pyrrolo[2,3-d]pyrimidine skeleton and a carbon atom adjacent to the carbon atom,

30 phenyl that may be substituted with hydroxy,

C1-C4 alkyl that may be substituted with hydroxy, formyl, or

35 one or more 4- to 6-membered monocyclic saturated heterocyclic groups that may be substituted with C1-C4 alkyl and

contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, or

a 4- to 6-membered monocyclic unsaturated heterocyclic group that may be substituted with

5 halogen,
C1-C4 alkyl that may be substituted with hydroxy, or
amino that may be substituted with C1-C4

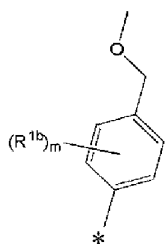
alkyl(carbonyl),

and contains 1 to 3 identical or different heteroatoms selected

10 from nitrogen, oxygen, and sulfur.

[Claim 6]

The compound or a salt thereof according to any one of claims 1 to 5, wherein A is



15 wherein R^{1b} is halogen;

m is an integer of 0 or 1;

R² is

branched C3-C6 alkyl that may be substituted with halogen, or

20 C3-C4 cycloalkyl that may be substituted with C1-C4 alkyl or C3-C5 cycloalkyl; and

X is CR³, wherein R³ is

hydrogen,

halogen,

25 C1-C4 alkoxy that may be substituted with

C1-C4 alkoxy,

C3-C7 cycloalkyl, or

one or more 4- to 6-membered monocyclic saturated heterocyclic groups containing one oxygen atom,

30 C1-C4 alkylthio,

C2-C4 alkenyl,

C2-C6 alkynyl that may be substituted with
hydroxy,
amino that may be substituted with R⁴, wherein R⁴ is
C1-C4 alkyl or C1-C4 alkoxy C1-C4 alkyl,
5 C3-C7 cycloalkyl that may be substituted with
hydroxy,
phenyl that may be substituted with R⁵, wherein R⁵ is
halogen,
one or more 4- to 6-membered monocyclic saturated
10 heterocyclic groups that may be substituted with R⁶ and contain 1
to 3 identical or different heteroatoms selected from nitrogen,
oxygen, and sulfur, wherein R⁶ is hydroxy, C1-C4 alkyl, or oxo, or
one or more 4- to 10-membered monocyclic or bicyclic
unsaturated heterocyclic groups that may be substituted with R⁷
15 and contain 1 to 3 identical or different heteroatoms selected
from nitrogen, oxygen, and sulfur, wherein R⁷ is halogen, cyano,
C1-C4 alkyl, C1-C4 alkoxy, or amino,
provided that the position of the triple bond of the
C2-C6 alkynyl is disposed between the carbon atom bonded to the
20 7H-pyrrolo[2,3-d]pyrimidine skeleton and a carbon atom adjacent
to the carbon atom,
phenyl that may be substituted with hydroxy, or C1-C4
alkyl that may be substituted with hydroxy, or
a 4- to 6-membered monocyclic unsaturated heterocyclic
25 group containing 1 or 2 nitrogen atoms.

[Claim 7]

The compound or a salt thereof according to any one of
claims 1 to 6, which is at least one member selected from the
30 group consisting of:
(1) 4-amino-7-(tert-butyl)-N-(4-(methoxymethyl)phenyl)-7H-
pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(2) 4-amino-7-(1-fluoro-2-methylpropan-2-yl)-N-(4-
(methoxymethyl)phenyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
35 (3) 4-amino-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-

- 7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(4) 4-amino-6-bromo-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(5) 4-amino-6-chloro-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
5 (6) 4-amino-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-6-vinyl-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(7) 4-amino-6-fluoro-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
10 (8) 4-amino-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-6-(3-morpholinoprop-1-yn-1-yl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(9) 4-amino-6-(4-hydroxy-4-methylpent-1-yn-1-yl)-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
15 (10) 4-amino-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-6-((tetrahydro-2H-pyran-4-yl)ethynyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(11) 4-amino-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-6-(3-(pyrrolidin-1-yl)prop-1-yn-1-yl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
20 (12) (R)-4-amino-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-6-((tetrahydrofuran-2-yl)methoxy)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(13) 4-amino-N-[4-(methoxymethyl)phenyl]-6-((1-methyl-1H-pyrazol-4-yl)ethynyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
25 (14) 4-amino-6-(imidazo[1,2-b]pyridazin-3-ylethynyl)-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
30 (15) 4-amino-N-(4-(methoxymethyl)phenyl)-6-((1-methyl-1H-pyrazol-3-yl)ethynyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;
(16) 4-amino-N-(4-(methoxymethyl)phenyl)-6-((1-methyl-1H-imidazol-5-yl)ethynyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-

d]pyrimidine-5-carboxamide;

(17) 4-amino-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-6-(pyridin-3-ylethynyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

5 (18) 4-amino-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-6-(prop-1-yn-1-yl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

(19) 4-amino-N-[4-(methoxymethyl)phenyl]-7-(1-methylcyclopropyl)-6-(3-(piperidin-1-yl)prop-1-yn-1-yl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

10 (20) 4-amino-6-ethoxy-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

(21) 4-amino-6-((1-hydroxycyclopentyl)ethynyl)-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

15 (22) 4-amino-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-6-(3-thiomorpholinoprop-1-yn-1-yl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

(23) 4-amino-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-6-(3-(tetrahydro-2H-pyran-4-yl)prop-1-yn-1-yl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

20 (24) 4-amino-6-((6-aminopyridin-3-yl)ethynyl)-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

(25) 4-amino-6-((1,3-dimethyl-1H-pyrazol-4-yl)ethynyl)-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

(26) 4-amino-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-6-((1-methylpiperidin-4-yl)ethynyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

30 (27) 4-amino-6-(3-(dimethylamino)prop-1-yn-1-yl)-N-(4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide;

(28) 4-amino-N-(3-fluoro-4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-6-((tetrahydro-2H-pyran-4-yl)ethynyl)-7H-

35 pyrrolo[2,3-d]pyrimidine-5-carboxamide; and

(29) 4-amino-N-(3-fluoro-4-(methoxymethyl)phenyl)-7-(1-methylcyclopropyl)-6-(3-morpholinoprop-1-yn-1-yl)-7H-pyrrolo[2,3-d]pyrimidine-5-carboxamide; and salts of these compounds.

5

[Claim 8]

The compound or a salt thereof according to any one of claims 1 to 7 for use as an RET inhibitor.

10 [Claim 9]

The compound or a salt thereof according to any one of claims 1 to 7 for use as an antitumor agent.

[Claim 10]

15 A RET inhibitor comprising the compound or a salt thereof according to any one of claims 1 to 7 as an active ingredient.

[Claim 11]

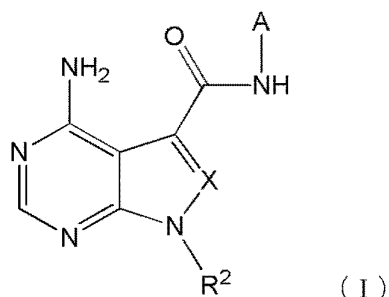
20 A pharmaceutical composition comprising the compound or a salt thereof according to any one of claims 1 to 7.

[Claim 12]

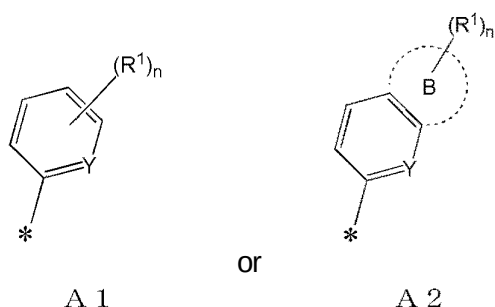
25 An antitumor agent comprising the compound or a salt thereof according to any one of claims 1 to 7.

[Claim 13]

30 A compound represented by Formula (I) below or a salt thereof for use in the prevention or treatment of malignant tumor:



wherein in Formula (I), A is



wherein R¹ is

- 5 halogen,
- cyano,
- nitro,
- substituted or unsubstituted C1-C6 alkyl,
- substituted or unsubstituted C1-C6 alkoxy,
- 10 substituted or unsubstituted C2-C6 alkenyl,
- substituted or unsubstituted C2-C6 alkynyl,
- substituted or unsubstituted amino, or
- a substituted or unsubstituted 4- to 10-membered monocyclic or
- polycyclic unsaturated heterocyclic group containing 1 to 3
- 15 identical or different heteroatoms selected from nitrogen, oxygen,
- and sulfur,
- Y is N or CH, and
- n is an integer of 0 to 2,
- wherein when n is 2, the two R¹ may be identical or different from
- 20 each other;
- in Formula A2, the group:



forms, together with phenyl or pyridinyl to which this group is bonded, polycyclic C8-C14 aromatic hydrocarbon or an 8- to 14-membered polycyclic unsaturated heterocyclic group containing 1 to 3 identical or different heteroatoms selected from nitrogen,
5 oxygen, and sulfur;

R² is

substituted or unsubstituted C3-C10 alkyl,

substituted or unsubstituted C3-C7 cycloalkyl,

substituted or unsubstituted C4-C12 bridged cycloalkyl,

10 substituted or unsubstituted C2-C6 alkenyl,

substituted or unsubstituted C3-C7 cycloalkenyl, or

a substituted or unsubstituted 4- to 10-membered monocyclic or polycyclic saturated heterocyclic group containing 1 to 3

identical or different heteroatoms selected from nitrogen, oxygen,
15 and sulfur,

provided that when each group represented by R² has a substituent, the substituent must not be a substituted or unsubstituted saturated heterocyclic group that may have at least one identical or different heteroatom selected from oxygen and sulfur, and has
20 at least one nitrogen atom; and

X is

N or

CR³, wherein R³ is

hydrogen,

25 halogen,

cyano,

nitro,

substituted or unsubstituted C1-C6 alkyl,

substituted or unsubstituted C1-C6 alkoxy,

30 substituted or unsubstituted C1-C6 alkylthio,

substituted or unsubstituted C3-C7 cycloalkyl,

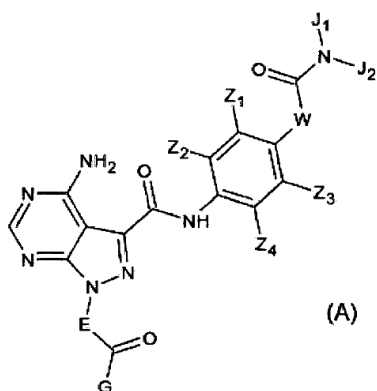
substituted or unsubstituted C2-C6 alkenyl,

substituted or unsubstituted C2-C6 alkynyl,

substituted or unsubstituted amino,

35 substituted or unsubstituted carbamoyl,

- substituted or unsubstituted C6-C14 aromatic hydrocarbon, or
- a substituted or unsubstituted 4- to 10-membered monocyclic or polycyclic saturated or unsaturated heterocyclic group containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur,
- provided that the compounds is not represented by the following formula (A):



10

wherein E represents an optionally substituted 4- to 10- membered nitrogen-containing saturated heterocyclic group;

G represents $-C(R_4)=C(R_5)(R_6)$;

15 Z_1 , Z_2 , Z_3 , and Z_4 are a hydrogen atom, or at least three of Z_1 , Z_2 , Z_3 , and Z_4 are a hydrogen atom and the remaining Z is a halogen atom, a cyano group, a C2-C6 alkenyl group, an optionally substituted C1-C6 alkoxy group, an optionally substituted C1-C6 alkyl group, an optionally substituted amino group, or a 4- to 10-membered unsaturated heterocyclic group;

20 W represents $-CH_2-$, an oxygen atom, or $-NH-$;

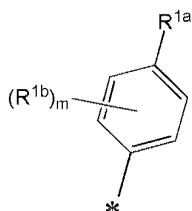
J_1 and J_2 are the same as or different from each other and each represent a hydrogen atom, an optionally substituted C1-C6 alkoxy group, an optionally substituted C1-C6 alkyl group, or an optionally substituted C6-C14 aromatic hydrocarbon group, or J_1 and J_2 optionally

form, together with the nitrogen atom bonded thereto, an optionally substituted 4- to 8-membered nitrogen-containing saturated heterocyclic group; and

5 R_4 , R_5 , and R_6 are the same as or different from each other and each represent a hydrogen atom or an optionally substituted C1-C6 alkyl group.

[Claim 14]

The compound or a salt thereof for use according to claim 13, wherein when A is A1, A1 is



10

wherein R^{1a} is

C1-C6 alkyl that may be substituted with C1-C6 alkoxy or C1-C6 alkylthio, wherein hydrogen contained in the C1-C6 alkoxy may be replaced by 1 or more deuterium atoms,

15 C2-C6 alkenyl,

C2-C6 alkynyl,

amino that may be substituted with one or more 4- to 10-membered monocyclic or polycyclic unsaturated heterocyclic groups containing 1 to 3 identical or different heteroatoms selected

20 from nitrogen, oxygen, and sulfur, or C6-C14 aromatic hydrocarbon, or

a 4- to 10-membered monocyclic or polycyclic unsaturated heterocyclic group containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur;

25 R^{1b} is halogen, C1-C6 alkyl, or C1-C6 alkoxy; and

m is an integer of 0 or 1.

[Claim 15]

The compound or a salt thereof for use according to

claim 13 or 14, wherein R^2 is
C3-C10 alkyl that may be substituted with halogen, C3-C7
cycloalkyl, or one or more 4- to 10-membered monocyclic or
polycyclic unsaturated heterocyclic groups containing 1 to 3
5 identical or different heteroatoms selected from nitrogen, oxygen,
and sulfur,
C3-C7 cycloalkyl that may be substituted with C1-C6 alkyl, C3-C7
cycloalkyl, or halogeno C1-C6 alkyl,
C4-C12 bridged cycloalkyl, or
10 C3-C7 cycloalkenyl.

[Claim 16]

The compound or a salt thereof for use according to any
one of claims 13 to 15, wherein when X is CR^3 , R^3 is
15 hydrogen,
halogen,
cyano,
C1-C4 alkyl that may be substituted with hydroxy or oxo,
C1-C6 alkoxy that may be substituted with
20 halogen,
C1-C6 alkoxy,
C3-C7 cycloalkyl, or
one or more 4- to 10-membered monocyclic saturated
heterocyclic groups that may be substituted with oxo and contain
25 1 to 3 identical or different heteroatoms selected from nitrogen,
oxygen, and sulfur,
C1-C4 alkylthio,
C3-C5 cycloalkyl,
C2-C6 alkenyl that may be substituted with hydroxy,
30 C2-C6 alkynyl that may be substituted with
hydroxy,
C1-C6 alkoxy,
amino that may be substituted with R^4 , wherein R^4 is
C1-C6 alkyl, C1-C4 alkoxy C1-C6 alkyl, or carbamoyl that may be
35 substituted with C3-C7 cycloalkyl,

C1-C6 alkylsilyloxy,
C3-C7 cycloalkyl that may be substituted with hydroxy
or oxo,

5 C6-C14 aromatic hydrocarbon that may be substituted
with R⁵, wherein R⁵ is halogen, C1-C4 alkylamino that may be
substituted with one or more 4- to 10-membered monocyclic
unsaturated heterocyclic groups containing 1 to 3 identical or
different heteroatoms selected from nitrogen, oxygen, and sulfur,
or C1-C6 alkoxy,

10 one or more 4- to 10-membered monocyclic saturated
heterocyclic groups that may be substituted with R⁶ and contain 1
to 3 identical or different heteroatoms selected from nitrogen,
oxygen, and sulfur, wherein R⁶ is hydroxy, C1-C6 alkyl, C1-C6
alkoxy, or oxo,

15 one or more 4- to 10-membered monocyclic or polycyclic
unsaturated heterocyclic groups that may be substituted with R⁷
and contain 1 to 3 identical or different heteroatoms selected
from nitrogen, oxygen, and sulfur, wherein R⁷ is halogen, cyano,
C1-C6 alkyl, C1-C6 alkoxy, or amino, or

20 unsaturated heterocyclic oxy that may be substituted
with halogen, wherein the unsaturated heterocyclic ring is a 4-
to 10-membered monocyclic or polycyclic unsaturated heterocyclic
ring containing 1 to 3 identical or different heteroatoms
selected from nitrogen, oxygen, and sulfur,

25 provided that the position of the triple bond of the
C2-C6 alkynyl is disposed between the carbon atom bonded to the
7H-pyrrolo[2,3-d]pyrimidine skeleton and a carbon atom adjacent
to the carbon atom,

C6-C14 aromatic hydrocarbon that may be substituted with

30 hydroxy,

C1-C6 alkyl that may be substituted with hydroxy,
formyl, or

one or more 4- to 10-membered monocyclic saturated
heterocyclic groups that may be substituted with C1-C6 alkyl and
35 contain 1 to 3 identical or different heteroatoms selected from

nitrogen, oxygen, and sulfur, or
a 4- to 6-membered monocyclic unsaturated heterocyclic group that
may be substituted with

halogen,

- 5 C1-C6 alkyl that may be substituted with hydroxy, or
amino that may be substituted with C1-C6

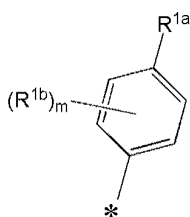
alkyl(carbonyl),

and contains 1 to 3 identical or different heteroatoms selected
from nitrogen, oxygen, and sulfur.

10

[Claim 17]

The compound or a salt thereof for use according to any
one of claims 13 to 16, wherein A is



- 15 wherein R^{1a} is

C1-C6 alkyl that may be substituted with C1-C6 alkoxy or C1-C6
alkylthio, wherein hydrogen contained in the C1-C6 alkoxy may be
replaced by 1 or more deuterium atoms, C2-C6 alkenyl,
C2-C6 alkynyl,

- 20 amino that may be substituted with one or more 4- to 6-membered
monocyclic unsaturated heterocyclic groups containing 1 to 3
identical or different heteroatoms selected from nitrogen, oxygen,
and sulfur, or C6-C10 aromatic hydrocarbon, or

- a 4- to 6-membered monocyclic unsaturated heterocyclic group
25 containing 1 to 3 identical or different heteroatoms selected
from nitrogen, oxygen, and sulfur;

R^{1b} is halogen, C1-C6 alkyl, or C1-C6 alkoxy;

m is an integer of 0 or 1;

R² is

- 30 C3-C10 alkyl that may be substituted with halogen, C3-C7
cycloalkyl, or one or more 4- to 10-membered monocyclic or

polycyclic unsaturated heterocyclic groups containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur,

C3-C7 cycloalkyl that may be substituted with C1-C6 alkyl, C3-C7
5 cycloalkyl, or halogeno C1-C6 alkyl, or
C4-C12 bridged cycloalkyl; and

X is

N or

CR³, wherein R³ is

10 hydrogen,

halogen,

cyano,

C1-C4 alkyl,

C1-C6 alkoxy that may be substituted with

15 halogen,

C1-C6 alkoxy,

C3-C7 cycloalkyl, or

one or more 4- to 10-membered monocyclic saturated heterocyclic groups that may be substituted with oxo and contain
20 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur,

C1-C4 alkylthio,

C3-C5 cycloalkyl,

C2-C4 alkenyl that may be substituted with hydroxy,

25 C2-C6 alkynyl that may be substituted with

hydroxy,

C1-C4 alkoxy,

amino that may be substituted with R⁴, wherein R⁴ is C1-C4 alkyl, C1-C4 alkoxy C1-C4 alkyl, or carbamoyl that may be
30 substituted with C3-C5 cycloalkyl,

tri-C1-C6 alkylsilyloxy,

C3-C7 cycloalkyl that may be substituted with hydroxy or oxo,

phenyl that may be substituted with R⁵, wherein R⁵ is
35 halogen, methylamino that may be substituted with one or more 4-

to 6-membered monocyclic unsaturated heterocyclic groups containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, or C1-C4 alkoxy,

5 one or more 4- to 6-membered monocyclic saturated heterocyclic groups that may be substituted with R⁶ and contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, wherein R⁶ is hydroxy, C1-C4 alkyl, C1-C4 alkoxy, or oxo,

10 one or more 4- to 10-membered monocyclic or bicyclic unsaturated heterocyclic groups that may be substituted with R⁷ and contain 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, wherein R⁷ is halogen, cyano, C1-C4 alkyl, C1-C4 alkoxy, or amino, or

15 unsaturated heterocyclic oxy that may be substituted with halogen, wherein the unsaturated heterocyclic ring is a 4- to 6-membered monocyclic unsaturated heterocyclic ring containing 1 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur,

20 provided that the position of the triple bond of the C2-C6 alkynyl is disposed between the carbon atom bonded to the 7H-pyrrolo[2,3-d]pyrimidine skeleton and a carbon atom adjacent to the carbon atom,

phenyl that may be substituted with hydroxy,

25 C1-C4 alkyl that may be substituted with hydroxy, formyl, or

one or more 4- to 6-membered monocyclic saturated heterocyclic groups that may be substituted with C1-C4 alkyl and contain 1 to 3 identical or different heteroatoms selected from 30 nitrogen, oxygen, and sulfur, or

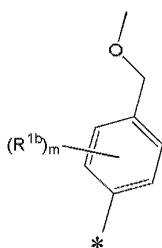
a 4- to 6-membered monocyclic unsaturated heterocyclic group that may be substituted with

35 halogen, C1-C4 alkyl that may be substituted with hydroxy, or amino that may be substituted with C1-C4

alkyl(carbonyl),
and contains 1 to 3 identical or different heteroatoms selected
from nitrogen, oxygen, and sulfur.

5 [Claim 18]

The compound or a salt thereof for use according to any
one of claims 13 to 17, wherein A is



wherein R^{1b} is halogen;

10 m is an integer of 0 or 1;

R^2 is

branched C3-C6 alkyl that may be substituted with halogen, or
C3-C7 cycloalkyl that may be substituted with C1-C4 alkyl or C3-
C5 cycloalkyl; and

15 X is CR^3 , wherein R^3 is

hydrogen,

halogen,

C1-C4 alkoxy that may be substituted with

C1-C4 alkoxy,

20 C3-C7 cycloalkyl, or

one or more 4- to 6-membered monocyclic saturated

heterocyclic groups containing one oxygen atom,

C1-C4 alkylthio,

C2-C4 alkenyl,

25 C2-C6 alkynyl that may be substituted with

hydroxy,

amino that may be substituted with R^4 , wherein R^4 is

C1-C4 alkyl or C1-C4 alkoxy C1-C4 alkyl,

C3-C7 cycloalkyl that may be substituted with

30 hydroxy,

phenyl that may be substituted with R⁵, wherein R⁵ is halogen,

one or more 4- to 6-membered monocyclic saturated heterocyclic groups that may be substituted with R⁶ and contain 1
5 to 3 identical or different heteroatoms selected from nitrogen, oxygen, and sulfur, wherein R⁶ is hydroxy, C1-C4 alkyl, or oxo, or

one or more 4- to 10-membered monocyclic or bicyclic unsaturated heterocyclic groups that may be substituted with R⁷ and contain 1 to 3 identical or different heteroatoms selected
10 from nitrogen, oxygen, and sulfur, wherein R⁷ is halogen, cyano, C1-C4 alkyl, C1-C4 alkoxy, or amino,

provided that the position of the triple bond of the C2-C6 alkynyl is disposed between the carbon atom bonded to the 7H-pyrrolo[2,3-d]pyrimidine skeleton and a carbon atom adjacent
15 to the carbon atom,

phenyl that may be substituted with hydroxy or C1-C4 alkyl that may be substituted with hydroxy, or

a 4- to 6-membered monocyclic unsaturated heterocyclic group containing 1 or 2 nitrogen atoms.