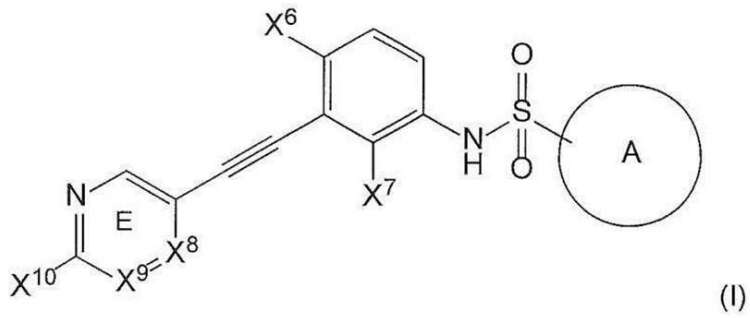
Claims

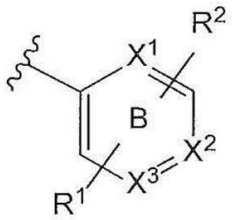
1. A compound represented by the formula (I):



(I)

wherein

ring A is the formula:



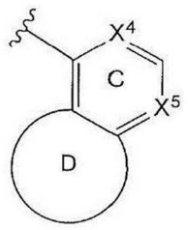
wherein ring B is an optionally further substituted 6-membered aromatic ring;

two of X^1, X^2 and X^3 are carbon atoms and the remaining one is a carbon atom or a nitrogen atom;

R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a cyano group, (3) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group, (4) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms or (5) a mono- or di-C_{1-6} alkylamino group; or

ring A is the formula:



wherein ring C is an optionally further substituted 6-membered aromatic ring;

ring D is an optionally further substituted 5- to 7-membered ring;

one of X^4 and X^5 is a carbon atom, and the other one is a carbon atom or a nitrogen atom;

X^6 is a hydrogen atom or a halogen atom;

X^7 is a halogen atom;

ring E is an optionally further substituted nitrogen-containing 6-membered aromatic ring;

X^8 is a carbon atom or a nitrogen atom;

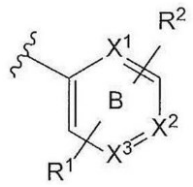
X^9 is a carbon atom or a nitrogen atom; and

X^{10} is a hydrogen atom or an optionally substituted amino group, or

X^9 and X^{10} are bonded to each other to form a ring,

or a salt thereof.

2. The compound according to claim 1, wherein ring A is (1) the formula:



wherein the combination of X^1, X^2 and X^3 (X^1, X^2, X^3) is (carbon atom, carbon atom, carbon atom) or (carbon atom, carbon atom, nitrogen atom);

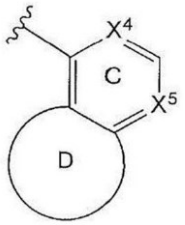
R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a cyano group, (3) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group, (4) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms or (5) a mono- or di-C_{1-6} alkylamino group; and

ring B is optionally further substituted by 1 to 3

substituents selected from (1) a halogen atom, (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups and (3) a C_{1-6} alkoxy group, or

(2) ring A is the formula:



wherein the combination of X^4 and X^5 (X^4, X^5) is (carbon atom, carbon atom);

ring C is optionally further substituted by 1 to 3 halogen atoms;

ring D is a 5- to 7-membered aromatic heterocycle or a 5- to 7-membered non-aromatic heterocycle;

ring D is optionally further substituted by 1 to 3 substituents selected from (1) a halogen atom and (2) a hydroxy group;

X^6 is a hydrogen atom, a fluorine atom or a chlorine atom;

X^7 is a fluorine atom or a chlorine atom;

the combination of X^8 and X^9 (X^8, X^9) is (carbon atom, nitrogen atom), (nitrogen atom, carbon atom) or (nitrogen atom, nitrogen atom);

ring E is optionally further substituted by 1 to 3 substituents selected from (1) a C_{1-6} alkyl group and (2) an amino group; and

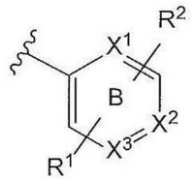
X^{10} is an amino group optionally substituted by 1 – 2 substituents selected from (1) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a hydroxy group and a 3- to 14-membered non-aromatic heterocyclic group, (2) a C_{3-10} cycloalkyl group optionally substituted by 1 to 3 hydroxy groups, (3) a 3- to 14-membered non-aromatic heterocyclic group and (4) a 5- to 14-membered aromatic

heterocyclic group optionally substituted by 1 to 3 C_{1-6} alkyl groups; or

X^9 and X^{10} are bonded to each other to form a 5- to 14-membered aromatic heterocycle,

or a salt thereof.

3. The compound according to claim 1, wherein ring A is (1) the formula:



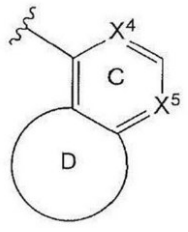
wherein the combination of X^1, X^2 and X^3 (X^1, X^2, X^3) is (carbon atom, carbon atom, carbon atom) or (carbon atom, carbon atom, nitrogen atom);

R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group or (3) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms;

ring B is optionally further substituted by 1 to 3 substituents selected from (1) a halogen atom and (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups, or

(2) ring A is the formula:



wherein the combination of X^4 and X^5 (X^4, X^5) is (carbon atom, carbon atom);

ring C is optionally further substituted by 1 to 3 halogen atoms;

ring D is a 5- to 7-membered non-aromatic heterocycle;

X^6 is a hydrogen atom, a fluorine atom or a chlorine atom;

X^7 is a fluorine atom or a chlorine atom;

the combination of X^8 and X^9 (X^8, X^9) is (carbon atom, nitrogen atom), (nitrogen atom, carbon atom) or (nitrogen atom, nitrogen atom);

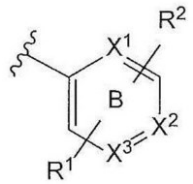
ring E is optionally further substituted by 1 to 3 C_{1-6} alkyl groups; and

X^{10} is an amino group optionally substituted by 1 – 2 substituents selected from (1) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups, (2) a C_{3-10} cycloalkyl group optionally substituted by 1 to 3 hydroxy groups and (3) a 3- to 14-membered non-aromatic heterocyclic group; or

X^9 and X^{10} are bonded to each other to form a 5- to 14-membered aromatic heterocycle,

or a salt thereof.

4. The compound according to claim 1, wherein ring A is the formula



wherein the combination of X^1, X^2 and X^3 (X^1, X^2, X^3) is (carbon atom, carbon atom, carbon atom) or (carbon atom, carbon atom, nitrogen atom);

R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group or (3) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms;

ring B is optionally further substituted by 1 to 3

substituents selected from (1) a halogen atom and (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups;

X^6 is a hydrogen atom, a fluorine atom or a chlorine atom;

X^7 is a fluorine atom or a chlorine atom;

the combination of X^8 and X^9 (X^8, X^9) is (carbon atom, nitrogen atom);

ring E is optionally further substituted by 1 to 3 C_{1-6} alkyl groups; and

X^{10} is an amino group optionally substituted by 1 – 2 substituents selected from (1) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups, (2) a C_{3-10} cycloalkyl group optionally substituted by 1 to 3 hydroxy groups and (3) a 3- to 14-membered non-aromatic heterocyclic group,
or a salt thereof.

5. N-(3-((2-Aminopyrimidin-5-yl)ethynyl)-2,4-difluorophenyl)-5-chloro-2-methoxypyridine-3-sulfonamide or a salt thereof.

6. 5-Chloro-N-(2,4-difluoro-3-((2-((trans-4-hydroxycyclohexyl)amino)pyrimidin-5-yl)ethynyl)phenyl)-2-methoxypyridine-3-sulfonamide or a salt thereof.

7. 2,5-Dichloro-N-(2,4-difluoro-3-((2-(((2R)-1-hydroxypropan-2-yl)amino)pyrimidin-5-yl)ethynyl)phenyl)-3-(hydroxymethyl)benzenesulfonamide or a salt thereof.

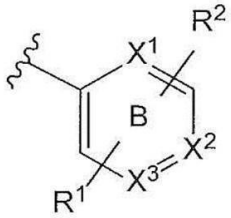
8. A medicament comprising the compound according to claim 1 or a salt thereof.

9. The medicament according to claim 8 which is a prophylactic or therapeutic agent for cancer.

10. The medicament according to claim 8 which is a GCN2 inhibitor.

11. Use of the compound according to claim 1 or a salt thereof in the manufacture of a medicament for the prophylaxis or treatment of cancer.

12. The compound according to claim 1, wherein ring A is the formula:



wherein

the combination of X^1, X^2 and X^3 (X^1, X^2, X^3) is (carbon atom, carbon atom, carbon atom);

R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group or (3) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms;

ring B is optionally further substituted by a substituent selected from (1) a halogen atom and (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups;

X^6 is a hydrogen atom, a fluorine atom or a chlorine atom;

X^7 is a fluorine atom or a chlorine atom;

the combination of X^8 and X^9 (X^8, X^9) is (carbon atom, nitrogen atom), (nitrogen atom, carbon atom) or (nitrogen atom, nitrogen atom);

ring E is optionally further substituted by 1 to 3 C_{1-6} alkyl groups; and

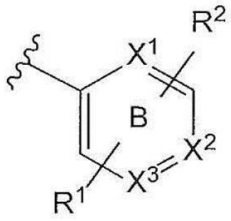
X^{10} is an amino group optionally substituted by 1 – 2 substituents selected from (1) a C_{1-6} alkyl group optionally

substituted by 1 to 3 hydroxy groups, (2) a C_{3-10} cycloalkyl group optionally substituted by 1 to 3 hydroxy groups and (3) a 3- to 14-membered non-aromatic heterocyclic group, or

X^9 and X^{10} are bonded to each other to form a 5- to 14-membered aromatic heterocycle,

or a salt thereof.

13. The compound according to claim 1, wherein ring A is the formula:



wherein the combination of X^1, X^2 and X^3 (X^1, X^2, X^3) is (carbon atom, carbon atom, nitrogen atom);

R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group or (3) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms;

ring B is optionally further substituted by a substituent selected from (1) a halogen atom and (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups;

X^6 is a hydrogen atom, a fluorine atom or a chlorine atom;

X^7 is a fluorine atom or a chlorine atom;

the combination of X^8 and X^9 (X^8, X^9) is (carbon atom, nitrogen atom), (nitrogen atom, carbon atom) or (nitrogen atom, nitrogen atom);

ring E is optionally further substituted by 1 to 3 C_{1-6} alkyl groups; and

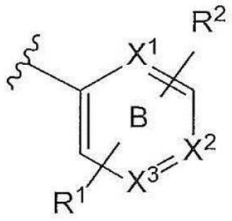
X^{10} is an amino group optionally substituted by 1 – 2

substituents selected from (1) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups, (2) a C_{3-10} cycloalkyl group optionally substituted by 1 to 3 hydroxy groups and (3) a 3- to 14-membered non-aromatic heterocyclic group, or

X^9 and X^{10} are bonded to each other to form a 5- to 14-membered aromatic heterocycle,

or a salt thereof.

14. The compound according to claim 1, wherein ring A is the formula:



wherein

the combination of X^1, X^2 and X^3 (X^1, X^2, X^3) is (carbon atom, carbon atom, carbon atom);

R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group or (3) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms;

ring B is optionally further substituted by a substituent selected from (1) a halogen atom and (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups;

X^6 is a hydrogen atom, a fluorine atom or a chlorine atom;

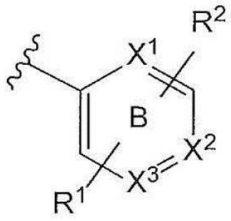
X^7 is a fluorine atom or a chlorine atom;

the combination of X^8 and X^9 (X^8, X^9) is (carbon atom, nitrogen atom);

ring E is optionally further substituted by 1 to 3 C_{1-6} alkyl groups; and

X^{10} is an amino group optionally substituted by 1 – 2 substituents selected from (1) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups, (2) a C_{3-10} cycloalkyl group optionally substituted by 1 to 3 hydroxy groups and (3) a 3- to 14-membered non-aromatic heterocyclic group,
or a salt thereof.

15. The compound according to claim 1, wherein ring A is the formula:



wherein the combination of X^1, X^2 and X^3 (X^1, X^2, X^3) is (carbon atom, carbon atom, nitrogen atom);

R^1 is (1) a chlorine atom, a bromine atom, (2) methyl, trifluoromethyl, or (3) a hydroxy group substituted by methyl or trifluoromethyl;

R^2 is (1) a halogen atom, (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 substituents selected from a halogen atom and a hydroxy group or (3) a C_{1-6} alkoxy group optionally substituted by 1 to 3 halogen atoms;

ring B is optionally further substituted by 1 to 3 substituents selected from (1) a halogen atom and (2) a C_{1-6} alkyl group optionally substituted by 1 to 3 hydroxy groups;

X^6 is a hydrogen atom, a fluorine atom or a chlorine atom;

X^7 is a fluorine atom or a chlorine atom;

the combination of X^8 and X^9 (X^8, X^9) is (carbon atom, nitrogen atom);

ring E is optionally further substituted by 1 to 3 C_{1-6} alkyl groups; and

X^{10} is an amino group optionally substituted by 1 – 2 substituents selected from (1) a C_{1-6} alkyl group optionally

substituted by 1 to 3 hydroxy groups, (2) a C_{3-10} cycloalkyl group optionally substituted by 1 to 3 hydroxy groups and (3) a 3- to 14-membered non-aromatic heterocyclic group,
or a salt thereof.

16. The compound according to claim 1 or a salt thereof for use in inhibiting GCN2 in a mammal.

17. The compound according to claim 1 or a salt thereof for use in the prophylaxis or treatment of cancer.

18. The compound according to claim 1 or a salt thereof for use in medicine.