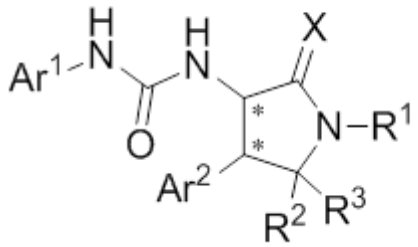
CLAIMS

1. A compound represented by the general formula (I) or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof:

[Chemical Formula 1]



(I)

wherein, in the formula (I), Ar^1 is a phenyl group optionally having substituent(s), a 5-membered aromatic heterocyclic group optionally having substituent(s), a 6-membered aromatic heterocyclic group optionally having substituent(s), or a bicyclic aromatic heterocyclic group having 8 or 9 atoms and optionally having substituent(s);

Ar^2 is a phenyl group optionally having substituent(s) (except for a phenyl group substituted only with halogen atom(s)), a 5-membered aromatic heterocyclic group optionally having substituent(s), a 6-membered aromatic heterocyclic group optionally having substituent(s), or a bicyclic aromatic heterocyclic group having 8 or 9 atoms and optionally having substituent(s);

X is a group selected from the group consisting of the following a), b), and c),

a) an oxygen atom or a sulfur atom,

b) NR^4, and

c) NOR^4, wherein,

when X is b) or c), R^4 is a hydrogen atom, a phenyl group optionally having substituent(s), a heterocyclic group optionally having substituent(s), or a C_1 to C_6 alkyl group optionally having substituent(s);

R^1 is a hydrogen atom, a hydroxy group, a C_1 to C_6 alkoxy group optionally having substituent(s), or a C_1 to C_6 alkyl group optionally having substituent(s);

R^2 and R^3 are each independently a hydrogen atom or a C_1 to C_6 alkyl group optionally having substituent(s) or together form a C_2 to C_6 alkylene group; and

each carbon atom marked with an asterisk is an asymmetric carbon atom;

wherein the term “optionally having substituent(s)” means optionally substituted with one or more substituents selected from the group consisting of:

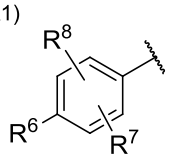
halogen atoms, an amino group, a hydroxy group, a cyano group, a nitro group, a carboxy group, C_1 to C_6 alkoxycarbonyl groups, a formyl group, C_1 to C_6 acyl groups, C_1 to C_6 alkyl groups, C_1 to C_6 alkylamino groups, di-C_1 to C_6 alkylamino groups, C_1 to C_6 alkoxy groups, C_1 to C_6 alkylthio groups, C_3 to C_6 cycloalkyl groups, 4- to 10-membered heterocycloalkyl groups, aromatic hydrocarbon cyclic groups optionally having a halogen atom, aromatic heterocyclic groups, C_1 to C_6 alkylcarbonylamino groups, C_3 to C_6 cycloalkylcarbonylamino groups, 4- to 10-membered heterocycloalkylcarbonylamino groups, aromatic hydrocarbon cyclic carbonylamino groups, and aromatic heterocyclic carbonylamino groups,

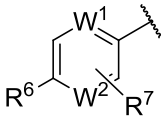
with the proviso that when the group optionally having substituent(s) is selected from the group consisting of phenyl, a 5-membered aromatic heterocyclic group, a 6-membered aromatic heterocyclic group, a bicyclic aromatic heterocyclic group having 8 or 9 atoms and a heterocyclic group, the optional substituent is not a di-C_1 to C_6 alkylamino group.

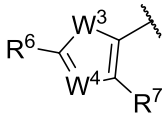
2. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the term “optionally having substituent(s)” has the meaning defined in claim 1, and wherein

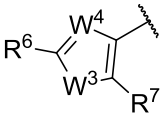
in the formula (I), Ar^2 is a group selected from the group consisting of the following A1), A2), A3), A4), A5), A6), A7), A8), A9), and A10):

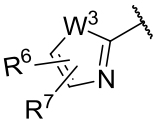
[Chemical Formula 2]

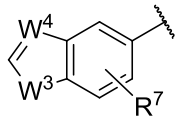
A1) 

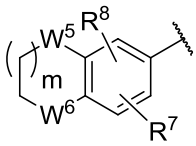
A2) 

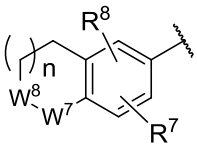
A3) 

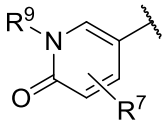
A4) 

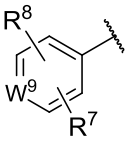
A5) 

A6) 

A7) 

A8) 

A9) 

A10) 

wherein, when Ar^2 is A2), W^1 is a nitrogen atom or CH optionally substituted with a hydrogen atom, with a halogen atom, or with a C_1 to C_6 alkyl group optionally having substituent(s);

when Ar^2 is A2), W^2 is CH or a nitrogen atom;

when Ar^2 is A3), A4), A5), or A6), W^3 is an oxygen atom, a sulfur atom, or NH optionally substituted with a C_1 to C_6 alkyl group;

when Ar^2 is A3), A4), or A6), W^4 is CH or a nitrogen atom;

when Ar^2 is A7), W^5 is CH_2, an oxygen atom, or a sulfur atom;

when Ar^2 is A7), W^6 is C=O, CH_2, CF_2, CHOH, NH optionally substituted with a C_1 to C_6 alkyl group, SO, SO_2, an oxygen atom, or a sulfur atom;

when Ar^2 is A8), W^7 is NH optionally substituted with a C_1 to C_6 alkyl group or C=O;

when Ar^2 is A8), W^8 is C=O with W^7 being NH optionally substituted with a C_1 to C_6 alkyl group and W^8 is NH optionally substituted with a C_1 to C_6 alkyl group with W^7 being C=O;

when Ar^2 is A10), W^9 is a nitrogen atom or N=O;

when Ar^2 is A1), A2), A3), A4), or A5), R^6 is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group optionally having substituent(s), a C_1 to C_6 alkoxy group optionally having substituent(s), a C_1 to C_6 acyl group optionally having substituent(s), a C_1 to C_6 alkylsulfanyl group optionally having substituent(s), a C_1 to C_6 alkylsulfinyl group optionally having substituent(s), a C_1 to C_6 alkylsulfonyl group optionally having substituent(s), a heterocyclic group

optionally having substituent(s), -$CONR^{10}R^{11}$, or -$NR^{10}R^{11}$, wherein, when R^6 is -$CONR^{10}R^{11}$ or -$NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group optionally having substituent(s), a C_1 to C_6 acyl group optionally having substituent(s), or a C_1 to C_6 alkylsulfonyl group optionally having substituent(s) and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group optionally having substituent(s), or R^{10} and R^{11} together form a C_3 to C_{10} heterocycloalkyl group;

when Ar^2 is A1), A2), A3), A4), A5), A6), A7), A8), A9), or A10), R^7 is a hydrogen atom, a halogen atom, a C_1 to C_6 alkyl group optionally having substituent(s), or a C_1 to C_6 alkoxy group optionally having substituent(s);

when Ar^2 is A1), A7), A8), or A10), R^8 is a hydrogen atom, a halogen atom, or a C_1 to C_6 alkyl group optionally having substituent(s);

when Ar^2 is A9), R^9 is a hydrogen atom or a C_1 to C_6 alkyl group;

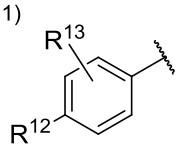
when Ar^2 is A7), m is 0 or 1; and

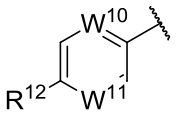
when Ar^2 is A8), n is 0 or 1;

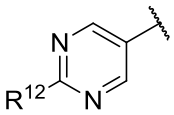
provided that, when Ar^2 is A1), combinations of the substituents R^6, R^7 and R^8 exclude a combination of a hydrogen atom and a halogen atom.

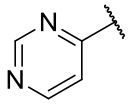
3. The compound according to claim 2 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the term “optionally having substituent(s)” has the meaning defined in claim 1, and wherein in the formula (I), Ar^1 is a group selected from the group consisting of the following B1), B2), B3), B4), B5), B6), B7), B8), B9), B10), B11), and B12):

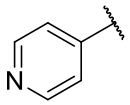
[Chemical Formula 3]

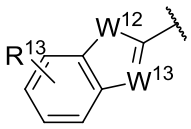
B1) 

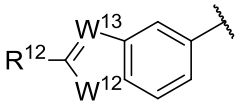
B2) 

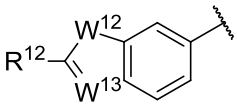
B3) 

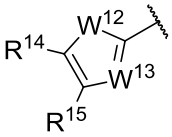
B4) 

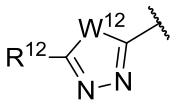
B5) 

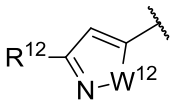
B6) 

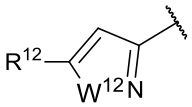
B7) 

B8) 

B9) 

B10) 

B11) 

B12) 

wherein, when Ar^1 is B2), B3), B7), B8), B10), B11), or B12), R^{12} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group optionally having substituent(s), a C_1 to C_6 alkoxy group optionally having substituent(s), a C_3 to C_6 cycloalkyl group optionally having substituent(s), a C_3 to C_6 cycloalkoxy group optionally having substituent(s), a C_1 to C_6 acyl group optionally having substituent(s), a C_2 to C_6 alkenyl group optionally having substituent(s), a C_2 to C_6 alkynyl group, a C_1 to C_6 alkoxycarbonyl group, a C_1 to C_6 alkylsulfanyl group optionally having substituent(s), a C_1 to C_6 alkylsulfinyl group optionally having substituent(s), a C_1 to C_6 alkylsulfonyl group optionally having substituent(s), $-CONR^{10}R^{11}$, $-NR^{10}R^{11}$, an aryloxy group, or a heterocyclic group optionally having substituent(s), wherein, when R^{12} is $-CONR^{10}R^{11}$ or $-NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group optionally having substituent(s), a C_1 to C_6 acyl group optionally having substituent(s), or a C_1 to C_6 alkylsulfonyl group optionally having substituent(s) and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group optionally having substituent(s), or R^{10} and R^{11} together form a C_3 to C_{10} heterocycloalkyl group;

when Ar^1 is B1), R^{12} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group optionally having substituent(s), a C_1 to C_6 alkoxy group optionally having substituent(s), a C_3 to C_6 cycloalkyl group optionally having substituent(s), a C_3 to C_6 cycloalkoxy group optionally having substituent(s), a C_1 to C_6 acyl group optionally having substituent(s), a C_2 to C_6 alkenyl group optionally having substituent(s), a C_2 to C_6 alkynyl group, a C_1 to C_6 alkoxycarbonyl

group, a C_1 to C_6 alkylsulfanyl group optionally having substituent(s), a C_1 to C_6 alkylsulfinyl group optionally having substituent(s), a C_1 to C_6 alkylsulfonyl group optionally having substituent(s), $-CONR^{10}R^{11}$, $-NR^{10}R^{11}$, an aryloxy group, or a heterocyclic group optionally having substituent(s), wherein, when R^{12} is $-CONR^{10}R^{11}$ or $-NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group optionally having substituent(s), a C_1 to C_6 acyl group optionally having substituent(s), or a C_1 to C_6 alkylsulfonyl group optionally having substituent(s) and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group optionally having substituent(s), or R^{10} and R^{11} together form a C_3 to C_{10} heterocycloalkyl group, and R^{13} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, or a C_1 to C_6 alkyl group, or R^{12} and R^{13} may together form a C_3 to C_5 alkylene group or a C_1 to C_2 alkylenedioxy group;

when Ar^1 is B6), R^{13} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, or a C_1 to C_6 alkyl group;

when Ar^1 is B9), R^{14} and R^{15} are each independently a hydrogen atom, a halogen atom, a cyano group, a C_1 to C_6 alkyl group, or a C_1 to C_6 alkoxy group;

when Ar^1 is B2), one of W^{10} and W^{11} is a nitrogen atom, and the other thereof is CH or a nitrogen atom;

when Ar^1 is B6), B7), B8), B9), B10), B11), or B12), W^{12} is an oxygen atom, a sulfur atom, or N-R^{16}, wherein, when W^{12} is an N-R^{16}, R^{16} is a hydrogen atom or a C_1 to C_6 alkyl group; and

when Ar^1 is B6), B7), B8), or B9), W^{13} is CH or a nitrogen atom.

4. The compound according to claim 3 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the term “optionally having substituent(s)” has the meaning defined in claim 1, and wherein

when Ar^2 is A1), A2), A3), A4), or A5), R^6 is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a halo-C_1 to C_6 alkoxy group, a C_1 to C_6 acyl group, a C_1 to C_6 alkylsulfanyl group, a C_1 to C_6 alkylsulfinyl group, a C_1 to C_6 alkylsulfonyl group, a heterocyclic group optionally having substituent(s), $-CONR^{10}R^{11}$, or $-NR^{10}R^{11}$, wherein, when R^6

is -$CONR^{10}R^{11}$ or -$NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group, a C_1 to C_6 acyl group, or a C_1 to C_6 alkylsulfonyl group and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group, or R^{10} and R^{11} together form a C_3 to C_{10} heterocycloalkyl group;

when Ar^2 is A1), A2), A3), A4), A5), A6), A7), A8), A9), or A10), R^7 is a hydrogen atom, a halogen atom, a C_1 to C_6 alkyl group, or a C_1 to C_6 alkoxy group;

when Ar^2 is A1), A7), A8), or A10), R^8 is a hydrogen atom, a halogen atom, or a C_1 to C_6 alkyl group; and

when Ar^2 is A9), R^9 is a hydrogen atom or a C_1 to C_6 alkyl group;

provided that, when Ar^2 is A1), combinations of the substituents R^6, R^7 and R^8 exclude a combination of a hydrogen atom and a halogen atom.

5. The compound according to claim 4 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the term “optionally having substituent(s)” has the meaning defined in claim 1, and wherein R^1 is a hydrogen atom, a hydroxy group, a C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a halo-C_1 to C_6 alkyl group, a hydroxy C_1 to C_6 alkyl group, a carboxy C_1 to C_6 alkyl group, a carbamoyl C_1 to C_6 alkyl group, a mono C_1 to C_6 alkylcarbamoyl C_1 to C_6 alkyl group, a di-C_1 to C_6 alkylcarbamoyl C_1 to C_6 alkyl group, an aminosulfonyl C_1 to C_6 alkyl group, an aromatic heterocyclic C_1 to C_3 alkyl group optionally having substituent(s), or a phenyl C_1 to C_3 alkyl group optionally having substituent(s);

R^2 and R^3 are each independently a hydrogen atom or a C_1 to C_3 alkyl group or together form a C_2 to C_6 alkylene group;

when Ar^1 is B2), B3), B7), B8), B10), B11), or B12), R^{12} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group, a halo-C_1 to C_6 alkyl group, a hydroxy C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a C_3 to C_6 cycloalkyl group, a C_3 to C_6 cycloalkoxy group, a C_1 to C_6 acyl group, a C_2 to C_6 alkenyl group, a C_2 to C_6 alkynyl group, a C_1 to C_6 alkoxycarbonyl group, a C_1 to C_6 alkylsulfanyl group, a C_1 to C_6 alkylsulfinyl group, a C_1 to C_6 alkylsulfonyl group, -$CONR^{10}R^{11}$, -$NR^{10}R^{11}$, an aryloxy group, or a heterocyclic group optionally having substituent(s), wherein, when R^{12} is -$CONR^{10}R^{11}$ or -$NR^{10}R^{11}$, R^{10} is a hydrogen

atom, a C_1 to C_6 alkyl group, a C_1 to C_6 acyl group, or a C_1 to C_6 alkylsulfonyl group and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group, or R^{10} and R^{11} together form a C_3 to C_{10} heterocycloalkyl group;

when Ar^1 is B1), R^{12} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group, a halo-C_1 to C_6 alkyl group, a hydroxy C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a C_3 to C_6 cycloalkyl group, a C_3 to C_6 cycloalkoxy group, a C_1 to C_6 acyl group, a C_2 to C_6 alkenyl group, a C_2 to C_6 alkynyl group, a C_1 to C_6 alkoxycarbonyl group, a C_1 to C_6 alkylsulfanyl group, a C_1 to C_6 alkylsulfinyl group, a C_1 to C_6 alkylsulfonyl group, $-CONR^{10}R^{11}$, $-NR^{10}R^{11}$, an aryloxy group, or a heterocyclic group optionally having substituent(s), wherein, when R^{12} is $-CONR^{10}R^{11}$ or $-NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group, a C_1 to C_6 acyl group, or a C_1 to C_6 alkylsulfonyl group and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group, or R^{10} and R^{11} together form a C_3 to C_{10} heterocycloalkyl group, and R^{13} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, or a C_1 to C_6 alkyl group, or R^{12} and R^{13} may together form a C_3 to C_5 alkylene group or a C_1 to C_2 alkylenedioxy group; and

X is a group selected from the group consisting of the following a), b), and c),

a) an oxygen atom,

b) NR^4, and

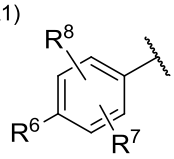
c) NOR^4, wherein,

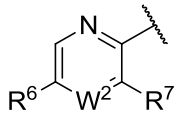
when X is b) or c), R^4 is a hydrogen atom, a hydroxy C_1 to C_6 alkyl group, a phenyl group, a heterocyclic group, or a C_1 to C_6 alkyl group.

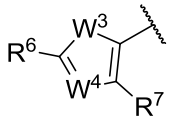
6. The compound according to claim 5 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein

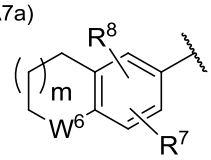
in the formula (I), Ar^2 is a group selected from the group consisting of A1), A2a), A3), and A7a):

[Chemical Formula 4]

A1) 

A2a) 

A3) 

A7a) 

wherein, when Ar^2 is A2a), W^2 is the same as that defined in claim 2 when Ar^2 is A2);

when Ar^2 is A3), W^4 is the same as that defined in claim 2 when Ar^2 is A3);

when Ar^2 is A7a), W^6 is the same as that defined in claim 2 when Ar^2 is A7);

when Ar^2 is A1), A2a), A3), or A7a), R^7 is the same as that defined in claim 4 when Ar^2 is A1), A2), A3), or A7);

when Ar^2 is A1) or A7a), R^8 is the same as that defined in claim 4 when Ar^2 is A1) or A7);

when Ar^2 is A7a), m is the same as that defined in claim 2 when Ar^2 is A7);

when Ar^2 is A1), A2a), or A3), R^6 is a hydrogen atom, a halogen atom, a cyano group, a C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a halo-C_1 to C_6 alkoxy group, a C_1 to C_6 acyl group, a C_1 to C_6 alkylsulfanyl group, a C_1 to C_6 alkylsulfinyl group, $-CONR^{10}R^{11}$, or $-NR^{10}R^{11}$, wherein, when R^6 is $-CONR^{10}R^{11}$ or $-NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group, or a C_1 to C_6 acyl group and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group, or R^{10} and R^{11} may together form a pyrrolidinyl group, a piperidinyl group, a piperazinyl group, or a morpholinyl group; and

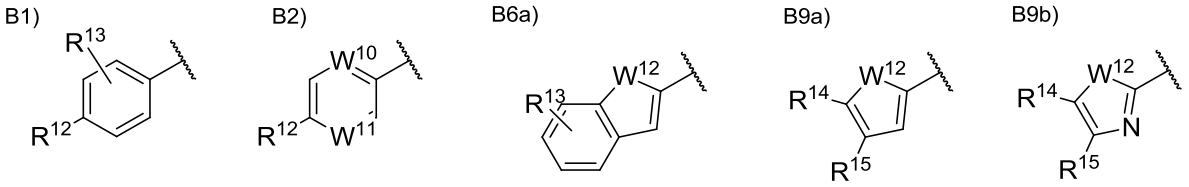
when Ar^2 is A3), W^3 is an oxygen atom or a sulfur atom;

provided that, when Ar^2 is A1), combinations of the substituents R^6, R^7 and R^8 exclude a combination of a hydrogen atom and a halogen atom.

7. The compound according to claim 6 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the term “optionally having substituent(s)” has the meaning defined in claim 1, and wherein

in the formula (I), Ar^1 is a group selected from the group consisting of B1), B2), B6a), B9a), and B9b):

[Chemical Formula 5]



wherein, when Ar^1 is B6a), R^{13} is the same as that defined in claim 3 when Ar^1 is B6);

when Ar^1 is B9a) or B9b), R^{14} and R^{15} are the same as those defined in claim 3 when Ar^1 is B9);

when Ar^1 is B2), W^{10} and W^{11} are the same as those defined in claim 3 when Ar^1 is B2);

when Ar^1 is B2), R^{12} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group, a halo-C_1 to C_6 alkyl group, a hydroxy C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a C_3 to C_6 cycloalkyl group, a C_3 to C_6 cycloalkoxy group, a C_1 to C_6 acyl group, a C_2 to C_6 alkenyl group, a C_1 to C_6 alkoxycarbonyl group, a C_1 to C_6 alkylsulfanyl group, a C_1 to C_6 alkylsulfinyl group, a C_1 to C_6 alkylsulfonyl group, $-CONR^{10}R^{11}$, $-NR^{10}R^{11}$, an aryloxy group, or a heterocyclic group optionally having substituent(s), wherein, when R^{12} is $-CONR^{10}R^{11}$ or $-NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group, or a C_1 to C_6 acyl group and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group, or R^{10} and R^{11} may together form a pyrrolidinyl group, a piperidinyl group, a piperazinyl group, or a morpholinyl group;

when Ar^1 is B1), R^{12} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, a C_1 to C_6 alkyl group, a halo-C_1 to C_6 alkyl group, a hydroxy C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a C_3 to C_6 cycloalkyl group, a C_3 to C_6 cycloalkoxy group, a C_1 to C_6 acyl group, a C_2 to C_6 alkenyl group, a C_1 to C_6 alkoxycarbonyl group, a C_1 to C_6 alkylsulfanyl group, a C_1 to C_6 alkylsulfinyl group, a C_1 to C_6 alkylsulfonyl group, $-CONR^{10}R^{11}$, $-NR^{10}R^{11}$, an aryloxy group, or a heterocyclic group optionally having substituent(s), wherein, when R^{12} is -

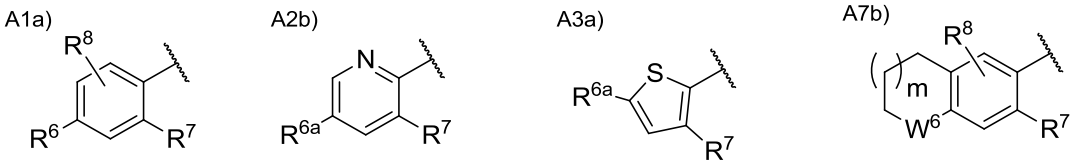
$CONR^{10}R^{11}$ or $-NR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group, or a C_1 to C_6 acyl group and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group, or R^{10} and R^{11} may together form a pyrrolidinyl group, a piperidinyl group, a piperazinyl group, or a morpholinyl group, and R^{13} is a hydrogen atom, a halogen atom, a hydroxy group, a cyano group, or a C_1 to C_6 alkyl group, or R^{12} and R^{13} may together form a C_3 to C_5 alkylene group or a C_1 to C_2 alkylenedioxy group; and

when Ar^1 is B6a), B9a), or B9b), W^{12} is an oxygen atom or a sulfur atom.

8. The compound according to claim 7 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein

in the formula (I), Ar^2 is a group selected from the group consisting of A1a), A2b), A3a), and A7b):

[Chemical Formula 6]



wherein, when Ar^2 is A1a), R^6 is the same as that defined in claim 6 when Ar^2 is A1);

when Ar^2 is A1a) or A7b), R^8 is the same as that defined in claim 4 when Ar^2 is A1) or A7);

when Ar^2 is A7b), m is the same as that defined in claim 2 when Ar^2 is A7);

R^1 is a hydrogen atom, a hydroxy group, a C_1 to C_3 alkyl group, a C_1 to C_3 alkoxy group, a hydroxy C_1 to C_4 alkyl group, a carboxy C_1 to C_3 alkyl group, a carbamoyl C_1 to C_3 alkyl group, a mono-C_1 to C_2 alkylcarbamoyl C_1 to C_3 alkyl group, or a di-C_1 to C_2 alkylcarbamoyl C_1 to C_3 alkyl group;

R^2 and R^3 are each independently a hydrogen atom or a C_1 to C_3 alkyl group;

when X is b) or c), R^4 is a hydrogen atom, a hydroxy C_1 to C_4 alkyl group, or a C_1 to C_3 alkyl group;

when Ar^2 is A2b) or A3a), R^{6a} is a C_1 to C_3 alkoxy group;

when Ar^2 is A1a), A2b), A3a), or A7b), R^7 is a hydrogen atom, a fluorine atom, a chlorine atom, or a C_1 to C_3 alkyl group; and

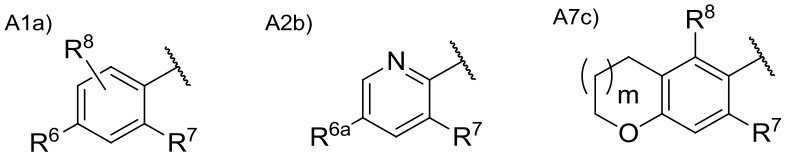
when Ar^2 is A7b), W^6 is C=O, CH_2, CF_2, CHOH, or an oxygen atom;

provided that, when Ar^1 is A1a), combinations of the substituents R^6, R^7 and R^8 exclude a combination of a hydrogen atom and a halogen atom.

9. The compound according to claim 8 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein

in the formula (I), Ar^2 is a group selected from the group consisting of A1a), A2b), and A7c):

[Chemical Formula 7]



wherein, when Ar^2 is A2b), R^{6a} is the same as that defined in claim 8 when Ar^2 is A2b);

when Ar^2 is A1a) or A7c), R^8 is the same as that defined in claim 4 when Ar^2 is A1) or A7);

when Ar^2 is A7c), m is the same as that defined in claim 8 when Ar^2 is A7b);

when Ar^2 is A1a), R^6 is a hydrogen atom, a fluorine atom, a chlorine atom, a cyano group, a C_1 to C_6 alkyl group, a C_1 to C_6 alkoxy group, a halo-C_1 to C_6 alkoxy group, a C_1 to C_6 alkylsulfanyl group, a C_1 to C_6 alkylsulfinyl group, or $-CONR^{10}R^{11}$, wherein, when R^6 is $-CONR^{10}R^{11}$, R^{10} is a hydrogen atom, a C_1 to C_6 alkyl group, or a C_1 to C_6 acyl group and R^{11} is a hydrogen atom or a C_1 to C_6 alkyl group, or R^{10} and R^{11} may together form a pyrrolidinyl group, a piperidinyl group, a piperazinyl group, or a morpholinyl group; and

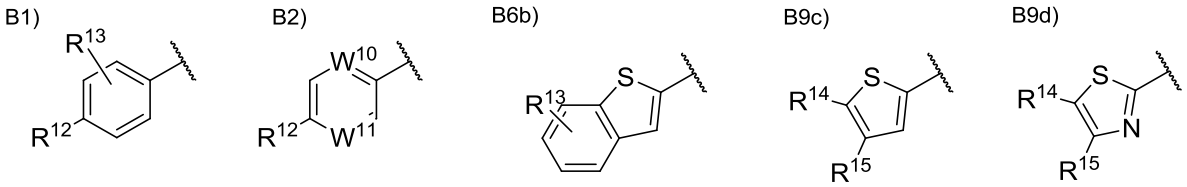
when Ar^2 is A1a), A2b), or A7c), R^7 is a hydrogen atom, a fluorine atom, or a chlorine atom;

provided that, when Ar^2 is A1a), combinations of the substituents R^6, R^7 and R^8 exclude a combination of a hydrogen atom and a halogen atom.

10. The compound according to claim 9 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein

in the formula (I), Ar^1 is a group selected from the group consisting of B1), B2), B6b), B9c), and B9d):

[Chemical Formula 8]



wherein R^1 is a hydrogen atom, a hydroxy group, a C_1 to C_3 alkyl group, a C_1 to C_3 alkoxy group, or a hydroxy C_1 to C_4 alkyl group;

when Ar^1 is B1) or B2), R^{12} is a hydrogen atom, a fluorine atom, a chlorine atom, a cyano group, a C_1 to C_3 alkyl group, or a C_1 to C_6 alkoxy group;

when Ar^1 is B1) or B6b), R^{13} is a hydrogen atom, a hydroxy group, a fluorine atom, or a chlorine atom;

when Ar^1 is B9c) or B9d), R^{14} is a hydrogen atom, a fluorine atom, a chlorine atom, a C_1 to C_3 alkyl group, a methoxy group, or an ethoxy group;

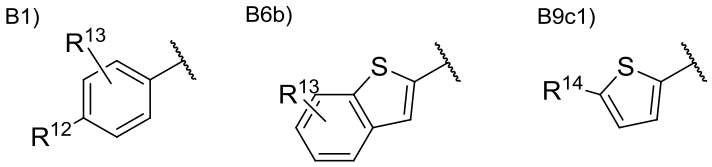
when Ar^1 is B9c) or B9d), R^{15} is a hydrogen atom, a fluorine atom, or a chlorine atom; and

when Ar^1 is B2), one of W^{10} and W^{11} is N, and the other thereof is CH.

11. The compound according to claim 10 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein

in the formula (I), Ar^1 is a group selected from the group consisting of B1), B6b), and B9c1):

[Chemical Formula 9]



wherein when Ar^1 is B1), R^{12} is the same as that defined in claim 10 when Ar^1 is B1);

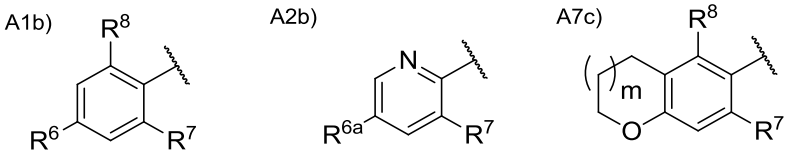
when Ar^1 is B1) or B6b), R^{13} is the same as that defined in claim 10 when Ar^1 is B1) or B6b); and

when Ar^1 is B9c1), R^{14} is the same as that defined in claim 10 when Ar^1 is B9c).

12. The compound according to claim 11 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein

in the formula (I), Ar^2 is a group selected from the group consisting of A1b), A2b), and A7c):

[Chemical Formula 10]



wherein, when Ar^2 is A2b), R^{6a} is the same as that defined in claim 8 when Ar^2 is A2b);

when Ar^2 is A7c), m is the same as that defined in claim 8 when Ar^2 is A7b);

when Ar^2 is A1b), R^6 is a cyano group, an ethyl group, or a C_1 to C_3 alkoxy group;

R^7 is a fluorine atom or a chlorine atom; and

when Ar^2 is A1b) or A7c), R^8 is a hydrogen atom, a fluorine atom, a chlorine atom, or a C_1 to C_3 alkyl group.

13. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein

the compound represented by the formula (1) is

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-chlorophenyl)-3-[(3S*,4R*)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(3,4-difluorophenyl)-3-[(3S*,4R*)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-cyanophenyl)-3-[(3S*,4R*)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-chlorophenyl)-3-[(3S*,4R*)-4-(4-methoxyphenyl)-1-methyl-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*)-4-(4-methoxyphenyl)-1-methyl-2-oxopyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*)-4-(3-fluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(2-fluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

1-[(3S*,4R*)-4-(2-chloro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*)-4-(4-methoxy-2-methylphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(2,5-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(3,5-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(6-fluoro-2,3-dihydrobenzofuran-5-yl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(3-fluoro-5-methoxypyridin-2-yl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*)-4-(5-methoxythiophen-2-yl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*)-4-(4-methylthiophenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-chlorophenyl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-cyanophenyl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-methoxyphenyl)urea,

(-)-1-(5-chlorothiazol-2-yl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(6-chloropyridin-3-yl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(5-chloropyridin-2-yl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(benzo[b]thiophen-2-yl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(5-methylthiophen-2-yl)urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*,5S*)-4-(4-methoxyphenyl)-5-methyl-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*,5R*)-4-(4-methoxyphenyl)-5-methyl-2-oxopyrrolidin-3-yl]urea,

(+)-1-(4-chlorophenyl)-3-[(3R*,4S*)-2-oxo-4-phenylpyrrolidin-3-yl]urea,

(±)-trans-1-(4-chlorophenyl)-3-[4-(4-methoxyphenyl)-1-methyl-2-oxopyrrolidin-3-yl]urea,

(±)-trans-1-(4-fluorophenyl)-3-[4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(±)-trans-1-(4-chlorophenyl)-3-[4-(4-methoxyphenyl)-1-methyl-2-oxopyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-[4-(trifluoromethoxy)phenyl]urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-phenylurea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-phenoxyphenyl)urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(3-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(3,4-difluorophenyl)urea,

(-)-1-(5-chlorothiophen-2-yl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(p-tolyl)urea,

(-)-1-[(3S*,4R*)-1-ethyl-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*)-1-(1-hydroxy-2-methylpropan-2-yl)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(±)-trans-1-(4-chlorophenyl)-3-[1-(2-hydroxyethyl)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(+)-trans-1-(4-chlorophenyl)-3-[1-(2-hydroxyethyl)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-trans-1-(4-chlorophenyl)-3-[1-(2-hydroxyethyl)-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-2-{(3S*,4R*)-3-[3-(4-fluorophenyl)ureido]-4-(4-methoxyphenyl)-2-oxopyrrolidin-1-yl}-N-methylacetamide,

(-)-2-{(3S*,4R*)-3-[3-(4-fluorophenyl)ureido]-4-(4-methoxyphenyl)-2-oxopyrrolidin-1-yl}propionic acid (isomer A),

(-)-2-{(3S*,4R*)-3-[3-(4-fluorophenyl)ureido]-4-(4-methoxyphenyl)-2-oxopyrrolidin-1-yl}-N-methylpropionamide (isomer A),

(-)-2-{(3S*,4R*)-3-[3-(4-fluorophenyl)ureido]-4-(4-methoxyphenyl)-2-oxopyrrolidin-1-yl}propionic acid (isomer B),

(-)-2-{(3S*,4R*)-3-[3-(4-fluorophenyl)ureido]-4-(4-methoxyphenyl)-2-oxopyrrolidin-1-yl}-N-methylpropionamide (isomer B),

(-)-2-{(3S*,4R*)-3-[3-(4-fluorophenyl)ureido]-4-(4-methoxyphenyl)-2-oxopyrrolidin-1-yl}-N,2-dimethylpropionamide,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-1-methyl-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(2-fluoro-4-methoxyphenyl)-1-(2-hydroxyethyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-1-(2-hydroxyethyl)-2-oxopyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(+)-1-(4-fluorophenyl)-3-[(3R*,4S*)-1-methoxy-4-(4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-3,5-difluoro-4-{(3R*,4S*)-4-[3-(4-fluorophenyl)ureido]-5-oxopyrrolidin-3-yl}benzamide,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*,Z)-2-(methoxyimino)-4-(4-methoxyphenyl)pyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*,Z)-4-(2-fluoro-4-methoxyphenyl)-2-(methoxyimino)pyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*,Z)-4-(2,6-difluoro-4-methoxyphenyl)-2-(methoxyimino)pyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-(4-fluorophenyl)-3-{(3S*,4R*,Z)-2-[(2-hydroxyethoxy)imino]-4-(4-methoxyphenyl)pyrrolidin-3-yl}urea,

(-)-1-{(3S*,4R*,Z)-4-(2,6-difluoro-4-methoxyphenyl)-2-[(2-hydroxyethoxy)imino]pyrrolidin-3-yl}-3-(4-fluorophenyl)urea,

(-)-1-[(3S*,4R*,Z)-4-(2,6-difluoro-4-methoxyphenyl)-2-(methylimino)pyrrolidin-3-yl]-3-(4-fluorophenyl)urea,

(-)-1-(4-fluorophenyl)-3-[(3S*,4R*,Z)-2-(2-hydroxyimino)-4-(4-methoxyphenyl)pyrrolidin-3-yl]urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(3-hydroxy-4-methylphenyl)urea,

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]-3-(4-fluoro-3-hydroxyphenyl)urea,

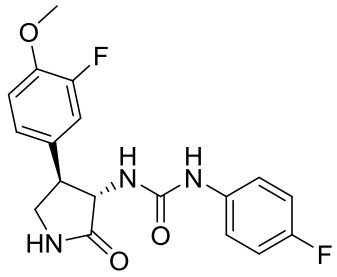
(-)-1-(4-chloro-3-hydroxyphenyl)-3-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-2-oxopyrrolidin-3-yl]urea,

(-)-1-(4-cyanophenyl)-3-[(3S*,4R*)-4-(6-fluoro-2,3-dihydrobenzofuran-5-yl)-2-oxopyrrolidin-3-yl]urea,

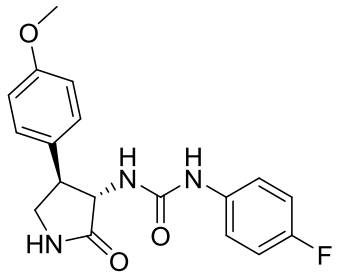
(-)-1-{(3S*,4R*,Z)-4-(2,6-difluoro-4-methoxyphenyl)-2-[(2-hydroxyethoxy)imino]pyrrolidin-3-yl}-3-(p-tolyl)urea, or

(-)-1-[(3S*,4R*)-4-(2,6-difluoro-4-methoxyphenyl)-1-(2-hydroxyethyl)-2-oxopyrrolidin-3-yl]-3-phenylurea.

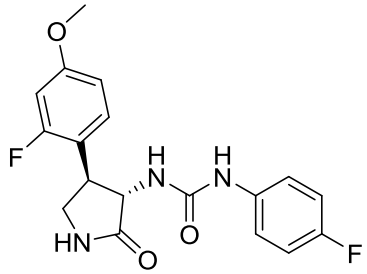
14. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



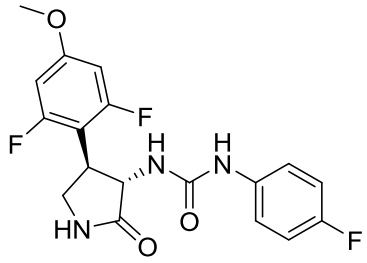
15. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



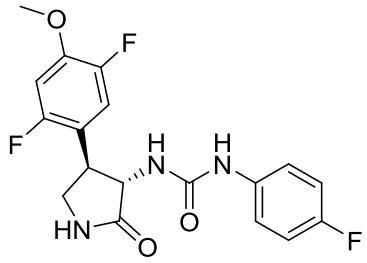
16. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



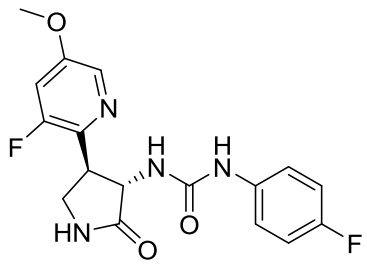
17. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



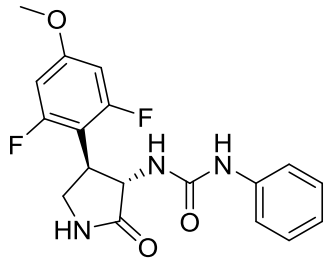
18. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



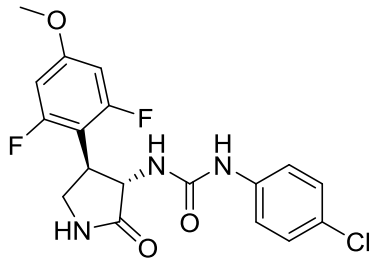
19. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



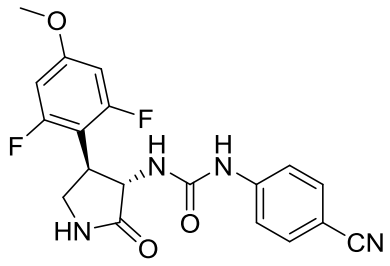
20. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



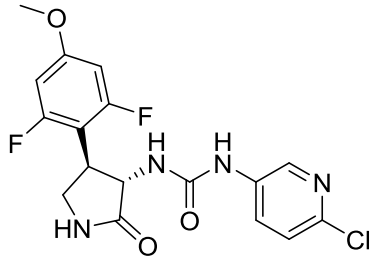
21. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



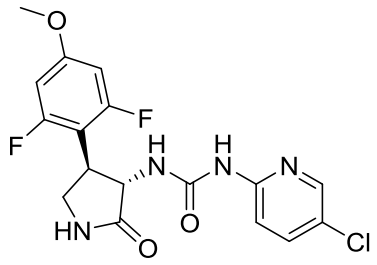
22. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



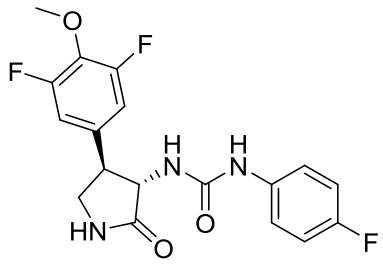
23. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



24. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



25. The compound according to claim 1 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, wherein the compound is:



26. A pharmaceutical comprising, as an active ingredient, the compound according to any one of claims 1 to 25 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof.

27. A pharmaceutical composition containing the compound according to any one of claims 1 to 25 or a pharmacologically acceptable salt thereof, or a solvate or hydrate thereof, and a pharmaceutically acceptable carrier, for use in the prevention or treatment of inflammatory diseases, chronic airway diseases, cancers, septicemia, allergic symptoms, HIV retrovirus infection, circulatory disorders, neuroinflammation, nervous disorders, pains, prion diseases, amyloidosis, and immune disorders.