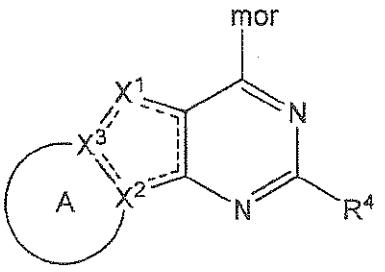
~~AMENDED~~ CLAIMS

~~received by the International Bureau on 11 May 2012 (11.05.2012)~~

1. A compound selected from Formula I:



I

and stereoisomers, geometric isomers, tautomers, and pharmaceutically acceptable salts thereof, wherein:

the dashed lines indicate an optional double bond, and at least one dashed line is a double bond;

X^1 is N, CR^1, or $-C(R^1)_2O-$;

X^2 is N;

X^3 is C or CR^3;

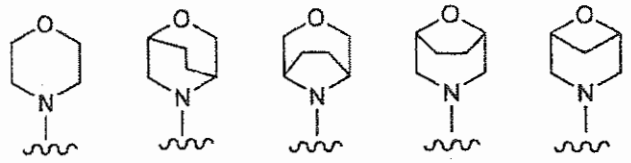
A is a 5, 6, or 7-membered carbocyclyl or heterocyclyl ring fused to X^2 and X^3, optionally substituted with one or more R^5 groups;

R^1 and R^3 are independently selected from H, F, Cl, Br, I, $-CH_3$, $-CH_2CH_3$, $-C(CH_3)_3$, $-CH_2OH$, $-CH_2CH_2OH$, $-C(CH_3)_2OH$, $-CH_2OCH_3$, $-CN$, $-CF_3$, $-CO_2H$, $-COCH_3$, $-COC(CH_3)_3$, $-CO_2CH_3$, $-CONH_2$, $-CONHCH_3$, $-CON(CH_3)_2$, $-C(CH_3)_2CONH_2$, $-NO_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-NHCOCH_3$, $-NHS(O)_2CH_3$, $-N(CH_3)C(CH_3)_2CONH_2$, $-N(CH_3)CH_2CH_2S(O)_2CH_3$, =O, $-OH$, $-OCH_3$, $-S(O)_2N(CH_3)_2$, $-SCH_3$, $-S(O)_2CH_3$, cyclopropyl, cyclobutyl, oxetanyl, morpholino, and 1,1-dioxo-thiopyran-4-yl;

R^4 is selected from C_6–C_{20} aryl, heterocyclyl having 3-20 ring atoms and heteroaryl having 5-20 ring atoms, each of which are optionally substituted with one or more groups R^6 groups independently selected from F, Cl, Br, I, $-CH_3$, $-CH_2CH_3$, $-CH(CH_3)_2$, $-CH_2CH(CH_3)_2$, $-CH_2CH_3$, $-CH_2CN$, $-CN$, $-CF_3$, $-CH_2OH$, $-CO_2H$, $-CONH_2$, $-CONH(CH_3)$, $-CON(CH_3)_2$, $-NO_2$, $-NH_2$, $-NHCH_3$, $-NHCOCH_3$, $-OH$, $-OCH_3$, $-OCH_2CH_3$, $-OCH(CH_3)_2$, -SH, $-NHC(=O)NHCH_3$, $-NHC(=O)NHCH_2CH_3$, $-NHC(=O)NHCH(CH_3)_2$, $-NHS(O)_2CH_3$, $-N(CH_3)C(=O)OC(CH_3)_3$, $-S(O)_2CH_3$, benzyl, benzyloxy, morpholinyl, morpholinomethyl, and 4-methylpiperazin-1-yl; and

R^5 is independently selected from C_1–C_{12} alkyl, C_2–C_8 alkenyl, C_2–C_8 alkynyl, –(C_1–C_{12} alkylene)–(C_3–C_{12} carbocyclyl), –(C_1–C_{12} alkylene)–(heterocyclyl having 3-20 ring atoms), –(C_1–C_{12} alkylene)–C(=O)–(heterocyclyl having 3-20 ring atoms), –(C_1–C_{12} alkylene)–(C_6–C_{20} aryl), and –(C_1–C_{12} alkylene)–(heteroaryl having 5-20 ring atoms); or two geminal R^5 groups form a 3, 4, 5, or 6-membered carbocyclyl or heterocyclyl ring, where alkyl, alkenyl, alkynyl, alkylene, carbocyclyl, heterocyclyl, aryl, and heteroaryl are optionally substituted with one or more groups independently selected from F, Cl, Br, I, $-CH_3$, $-CH_2CH_3$, $-C(CH_3)_3$, $-CH_2OH$, $-CH_2CH_2OH$, $-C(CH_3)_2OH$, $-CH_2OCH_3$, –CN, $-CH_2F$, $-CHF_2$, $-CF_3$, $-CO_2H$, $-COCH_3$, $-COC(CH_3)_3$, $-CO_2CH_3$, $-CONH_2$, $-CONHCH_3$, $-CON(CH_3)_2$, $-C(CH_3)_2CONH_2$, $-NO_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-NHCOCH_3$, $-NHS(O)_2CH_3$, $-N(CH_3)C(CH_3)_2CONH_2$, $-N(CH_3)CH_2CH_2S(O)_2CH_3$, =O, –OH, $-OCH_3$, $-S(O)_2N(CH_3)_2$, $-SCH_3$, $-S(O)_2CH_3$, cyclopropyl, cyclobutyl, oxetanyl, morpholino, and 1,1-dioxo-thiopyran-4-yl;

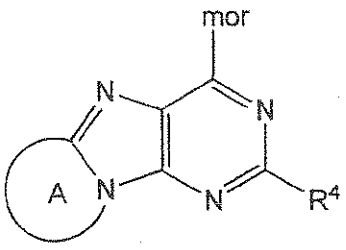
mor is selected from:



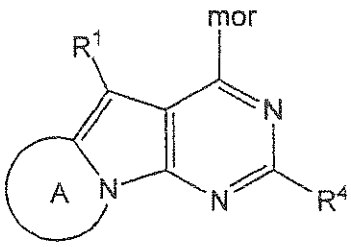
optionally substituted with one or more R^7 groups independently selected from F, Cl, Br, I, $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-C(CH_3)_3$, $-CH_2OCH_3$, $-CHF_2$, –CN, $-CF_3$, $-CH_2OH$, $-CH_2OCH_3$, $-CH_2CH_2OH$, $-CH_2C(CH_3)_2OH$, $-CH(CH_3)OH$, $-CH(CH_2CH_3)OH$, $-CH_2CH(OH)CH_3$, $-C(CH_3)_2OH$, $-C(CH_3)_2OCH_3$, $-CH(CH_3)F$, $-C(CH_3)F_2$, $-CH(CH_2CH_3)F$, $-C(CH_2CH_3)_2F$, $-CO_2H$, $-CONH_2$, $-CON(CH_2CH_3)_2$, $-COCH_3$, $-CON(CH_3)_2$, $-NO_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-NHCH_2CH_3$, $-NHCH(CH_3)_2$, $-NHCH_2CH_2OH$, $-NHCH_2CH_2OCH_3$, $-NHCOCH_3$, $-NHCOCH_2CH_3$, $-NHCOCH_2OH$, $-NHS(O)_2CH_3$, $-N(CH_3)S(O)_2CH_3$, =O, –OH, $-OCH_3$, $-OCH_2CH_3$, $-OCH(CH_3)_2$, -SH, -NHC(=O)$NHCH_3$, $-NHC(=O)NHCH_2CH_3$,

$-S(O)CH_3$, $-S(O)CH_2CH_3$, $-S(O)_2CH_3$, $-S(O)_2NH_2$, $-S(O)_2NHCH_3$, $-S(O)_2N(CH_3)_2$, and $-CH_2S(O)_2CH_3$.

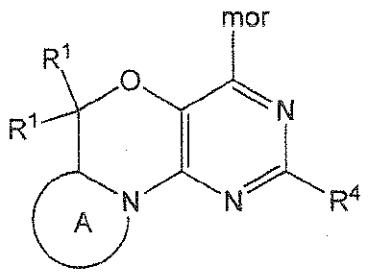
2. The compound of claim 1 selected from Formulas Ia, Ib, and In:



Ia

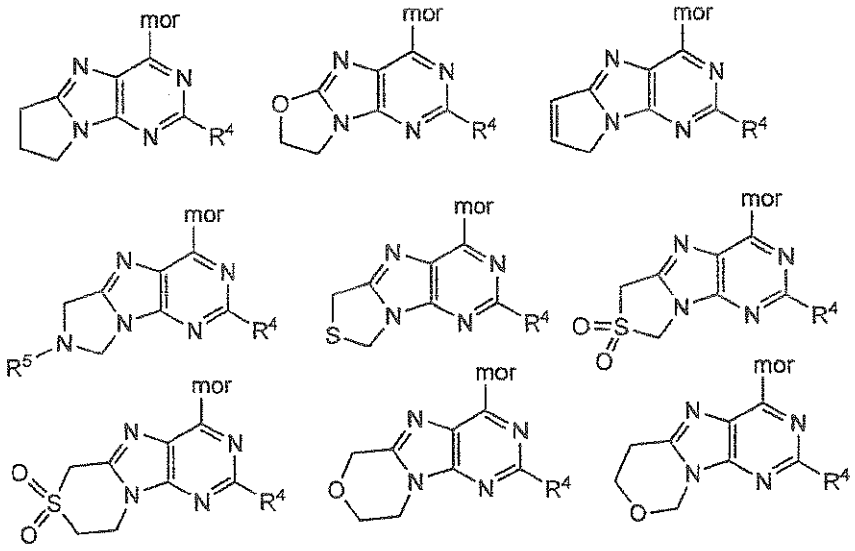


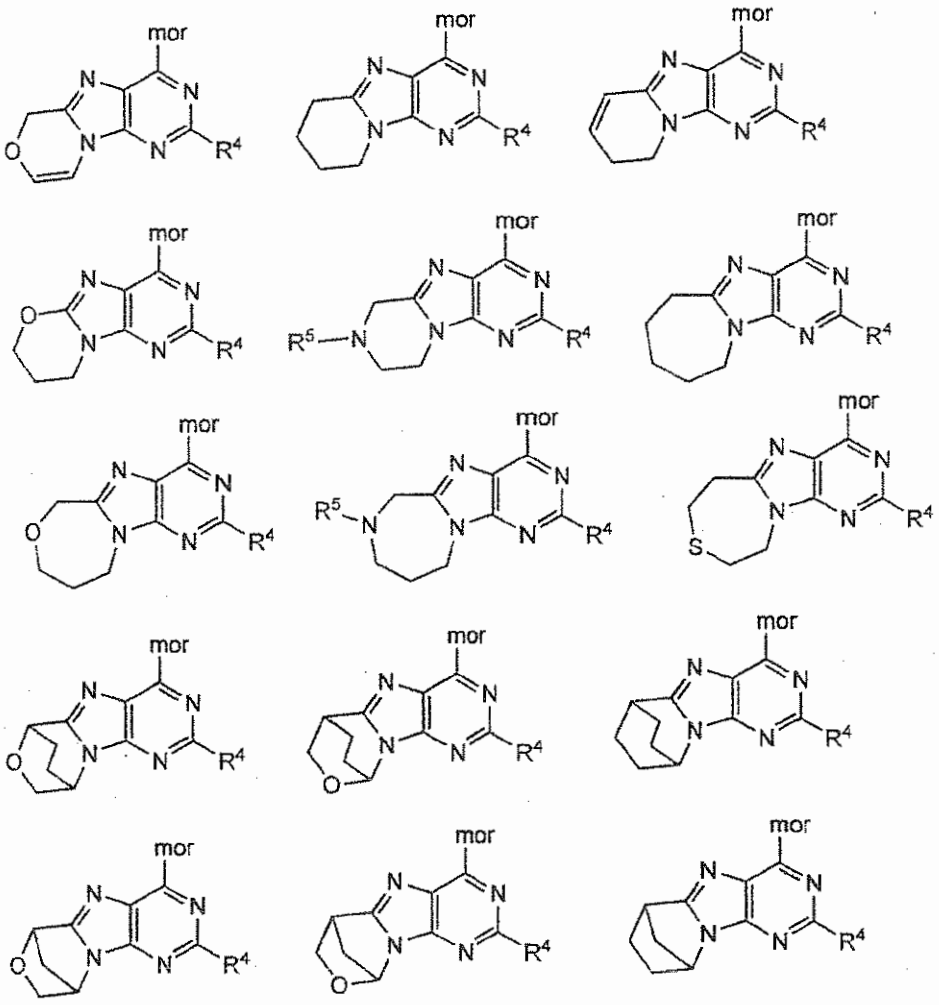
Ib



In.

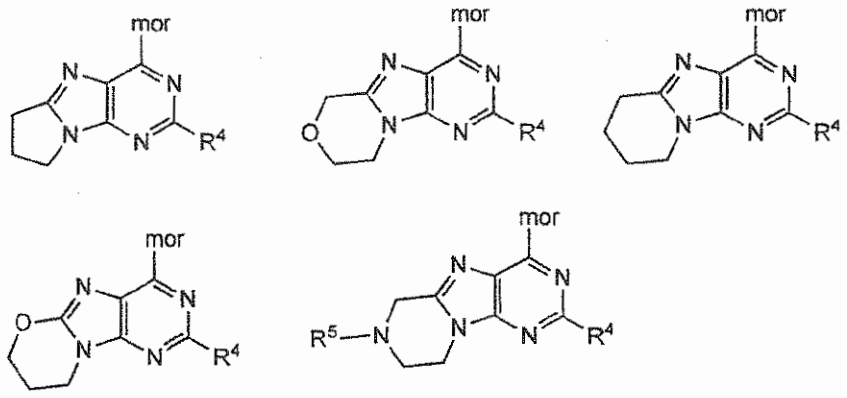
3. The compound of claim 2, wherein Formula Ia is selected from the structures:





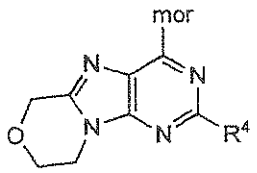
where the A heterocyclyl ring is optionally substituted with one or more R^5 groups.

4. The compound of claim 2 wherein Formula Ia is selected from the structures:



where the A heterocyclyl ring is optionally substituted with one or more R^5 groups.

5. The compound of claim 2, wherein Formula Ia is:

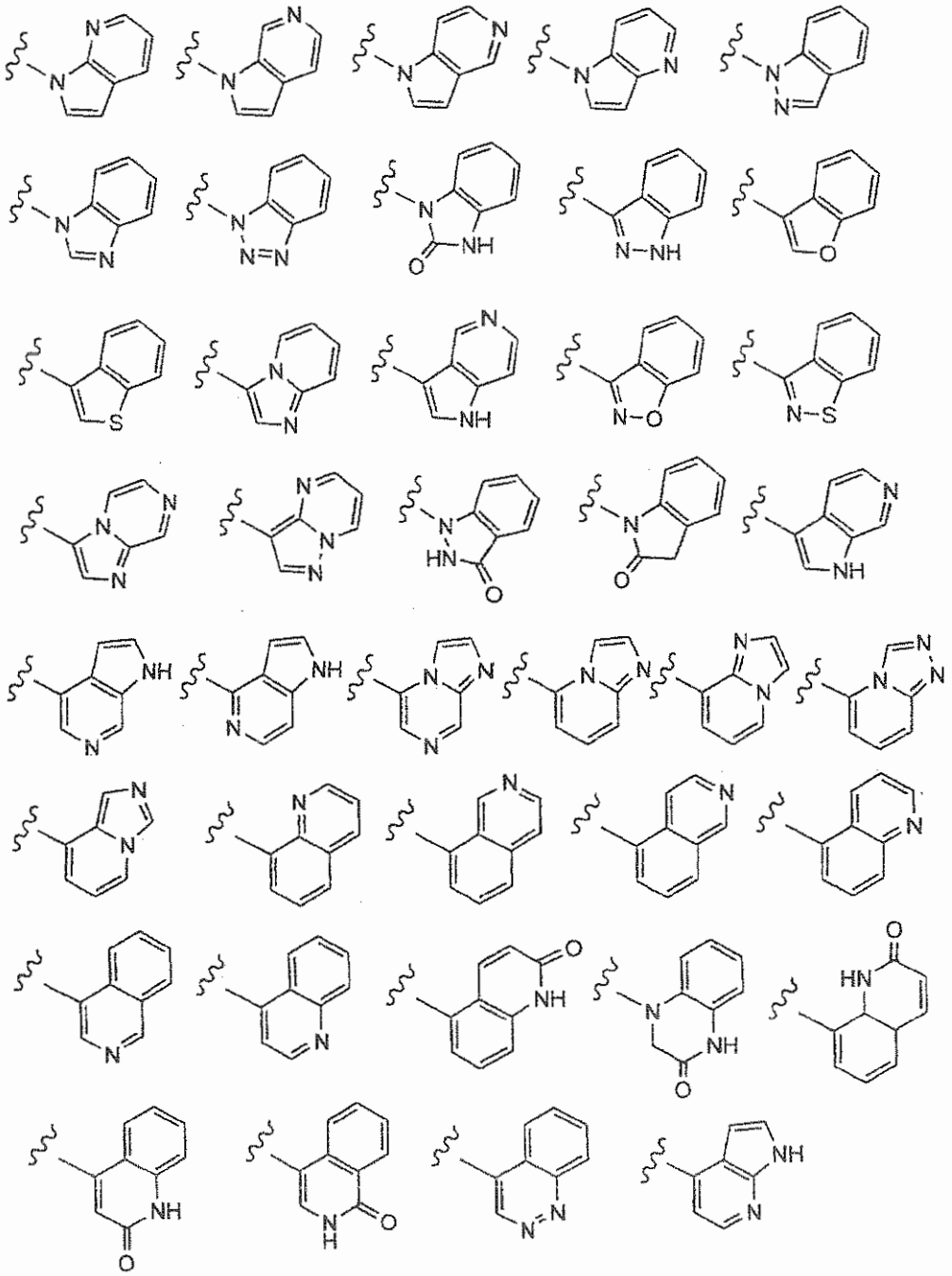


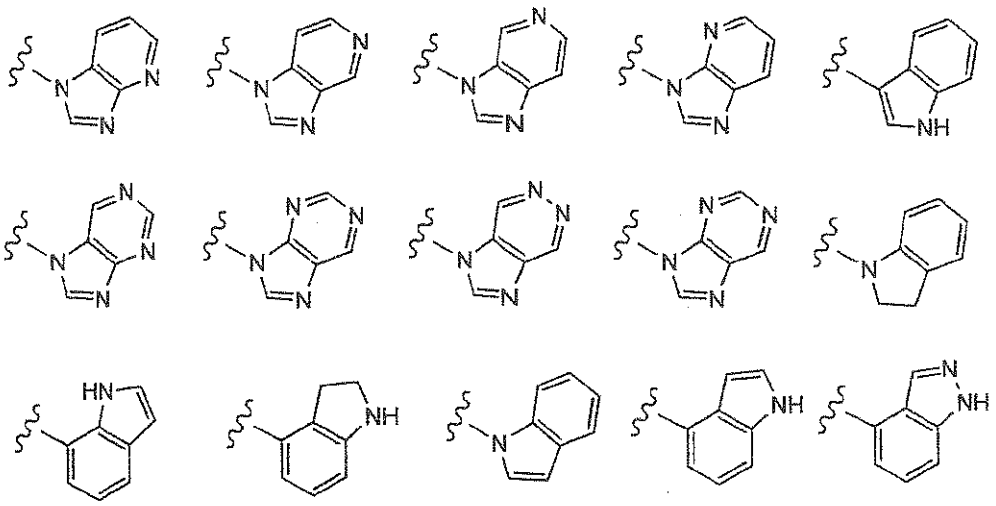
where the A heterocyclyl ring is optionally substituted with one or more R^5 groups.

6. The compound of any one of claims 1-5 wherein R^4 is phenyl substituted with one or more groups selected from F, Cl, Br, I, $-CH_3$, $-CH_2CH_3$, $-CH(CH_3)_2$, $-CN$, $-CF_3$, $-CH_2OH$, $-CO_2H$, $-CONH_2$, $-CONH(CH_3)$, $-CON(CH_3)_2$, $-NO_2$, $-NH_2$, $-NHCH_3$, $-NHCOCH_3$, $-OH$, $-OCH_3$, $-OCH_2CH_3$, $-OCH(CH_3)_2$, -SH, $-NHC(=O)NHCH_3$, $-NHC(=O)NHCH_2CH_3$, $-NHS(O)_2CH_3$, $-N(CH_3)C(=O)OC(CH_3)_3$, and $-S(O)_2CH_3$.

7. The compound of any one of claims 1-5 wherein R^4 is an optionally substituted bicyclic heteroaryl group selected from 1H-indazole, 1H-indole, indolin-2-one, 1-(indolin-1-yl)ethanone, 1H-benzo[d][1,2,3]triazole, 1H-pyrazolo[3,4-b]pyridine, 1H-pyrazolo[3,4-d]pyrimidine, 1H-benzo[d]imidazole, 1H-benzo[d]imidazol-2(3H)-one, 1H-pyrazolo[3,4-c]pyridine, 1H-pyrrolo[2,3-c]pyridine, 3H-imidazo[4,5-c]pyridine, 7H-pyrrolo[2,3-d]pyrimidine, 7H-purine, 1H-pyrazolo[4,3-d]pyrimidine, 5H-pyrrolo[3,2-d]pyrimidine, 2-amino-1H-purin-6(9H)-one, quinoline, quinazoline, quinoxaline, isoquinoline, isoquinolin-1(2H)-one, 3,4-dihydroisoquinolin-1(2H)-one, 3,4-dihydroquinolin-2(1H)-one, quinazolin-2(1H)-one, quinoxalin-2(1H)-one, 1,8-naphthyridine, pyrido[3,4-d]pyrimidine, and pyrido[3,2-b]pyrazine.

8. The compound of any one of claims 1-5 wherein optionally substituted R^4 is selected from:





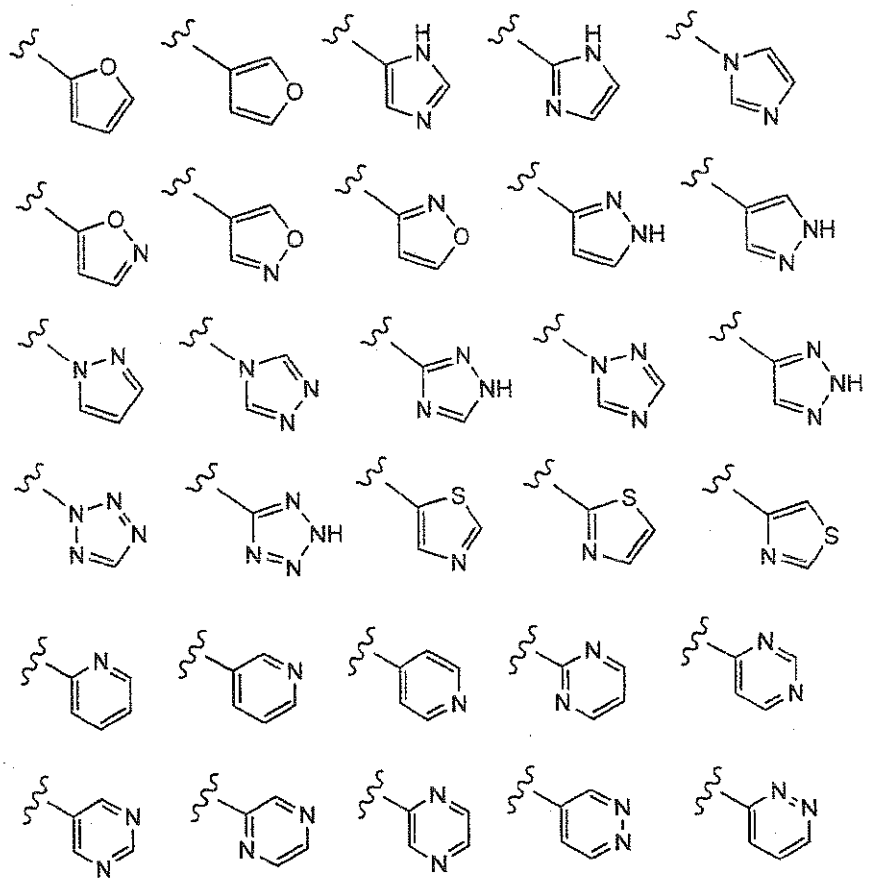
where the wavy line indicates the site of attachment.

9. The compound of claim 7 wherein R^4 is 1H-indazol-4-yl.

10. The compound of any of claims 1-5 wherein R^4 is an optionally substituted monocyclic heteroaryl group selected from 2-furanyl, 3-furanyl, 2-imidazolyl, 4-imidazolyl, 3-isoxazolyl, 4-isoxazolyl, 5-isoxazolyl, 2-oxazolyl, 4-oxazolyl, 5-oxazolyl, 3-pyrazolyl, 4-pyrazolyl, 2-pyrazinyl, 3-pyridazinyl, 4-pyridazinyl, 5-pyridazinyl, 2-pyrimidinyl, 5-pyrimidinyl, 6-pyrimidinyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, 2-pyrrolyl, 3-pyrrolyl, 2-thienyl, 3-thienyl, 5-tetrazolyl, 1-tetrazolyl, 2-tetrazolyl, 2-thiazolyl, 4-thiazolyl, 5-thiazolyl, 3-triazolyl, and 1-triazolyl.

11. The compound of claim 10 wherein R^4 is 2-aminopyrimidin-5-yl.

12. The compound of any of claims 1-5 wherein optionally substituted R^4 is selected from:

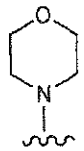


where the wavy line indicates the site of attachment.

13. The compound of any one of claims 1-12 wherein one or more R^5 groups are independently selected from F, Cl, Br, I, $-CH_3$, $-CH_2CH_3$, $-C(CH_3)_3$, $-CH_2OH$, $-CH_2CH_2OH$, $-C(CH_3)_2OH$, $-CH_2OCH_3$, $-CN$, $-CH_2F$, $-CHF_2$, $-CF_3$, $-CO_2H$, $-COCH_3$, $-COC(CH_3)_3$, $-CO_2CH_3$, $-CONH_2$, $-CONHCH_3$, $-CON(CH_3)_2$, $-C(CH_3)_2CONH_2$, $-NO_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-NHCOCH_3$, $-NHS(O)_2CH_3$, $-N(CH_3)C(CH_3)_2CONH_2$, $-N(CH_3)CH_2CH_2S(O)_2CH_3$, =O, $-OH$, $-OCH_3$, $-S(O)_2N(CH_3)_2$, $-SCH_3$, $-S(O)_2CH_3$, cyclopropyl, cyclobutyl, oxetanyl, morpholino, and 1,1-dioxo-thiopyran-4-yl.

14. The compound of any one of claims 1-13 wherein two geminal R^5 groups form cyclopropyl, cyclobutyl, cyclopentyl, tetrahydrofuryl, tetrahydropyranyl, oxetanyl, azetidinyl, pyrrolidinyl, piperidyl, piperazinyl, cyclohexyl, morpholino, or 1,1-dioxo-thiopyran-4-yl.

15. The compound of any one of claims 1-14 wherein mor is



where the wavy line indicates the site of attachment, optionally substituted with one or more R^7 groups independently selected from F, Cl, Br, I, $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-C(CH_3)_3$, $-CH_2OCH_3$, $-CHF_2$, $-CN$, $-CF_3$, $-CH_2OH$, $-CH_2OCH_3$, $-CH_2CH_2OH$, $-CH_2C(CH_3)_2OH$, $-CH(CH_3)OH$, $-CH(CH_2CH_3)OH$, $-CH_2CH(OH)CH_3$, $-C(CH_3)_2OH$, $-C(CH_3)_2OCH_3$, $-CH(CH_3)F$, $-C(CH_3)F_2$, $-CH(CH_2CH_3)F$, $-C(CH_2CH_3)_2F$, $-CO_2H$, $-CONH_2$, $-CON(CH_2CH_3)_2$, $-COCH_3$, $-CON(CH_3)_2$, $-NO_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-NHCH_2CH_3$, $-NHCH(CH_3)_2$, $-NHCH_2CH_2OH$, $-NHCH_2CH_2OCH_3$, $-NHCOCH_3$, $-NHCOCH_2CH_3$, $-NHCOCH_2OH$, $-NHS(O)_2CH_3$, $-N(CH_3)S(O)_2CH_3$, =O, $-OH$, $-OCH_3$, $-OCH_2CH_3$, $-OCH(CH_3)_2$, -SH, $-NHC(=O)NHCH_3$, $-NHC(=O)NHCH_2CH_3$, $-S(O)CH_3$, $-S(O)CH_2CH_3$, $-S(O)_2CH_3$, $-S(O)_2NH_2$, $-S(O)_2NHCH_3$, $-S(O)_2N(CH_3)_2$, and $-CH_2S(O)_2CH_3$.

16. A compound of claim 1 selected from the group consisting of:

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)-4-methylpyrimidin-2-amine,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)-4-(trifluoromethyl)pyridyl-2-amine,

5-(4-morpholino-8,9-dihydro-7h-[1,3]oxazino[2,3-e]purin-2-yl)pyrimidin-2-amine,

5-(4-morpholino-6,7,8,9-tetrahydropyrido[2,1-e]purin-2-yl)pyrimidin-2-amine,

5-(4-morpholino-6,7,8,9-tetrahydropyrido[2,1-e]purin-2-yl)pyridin-2-amine,

5-(4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)-4-(trifluoromethyl)pyridyl-2-amine,

5-(4-morpholino-7,8-dihydro-6h-pyrrolo[2,1-e]purin-2-yl)pyrimidin-2-amine,

6,6-dimethyl-4-morpholino-2-(1H-pyrrolo[2,3-b]pyridin-5-yl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyridin-2-amine,

5-(4-morpholino-8,9-dihydrospiro[[1,3]oxazino[2,3-e]purine-7,1'-cyclopropane]-2-yl)pyrimidin-2-amine,

5-(4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

5-(4-morpholino-8,9-dihydrospiro[[1,4]oxazino[3,4-e]purine-6,3'-oxetane]-2-yl)pyrimidin-2-amine,

5-(7,7-dimethyl-4-morpholino-8,9-dihydro-7h-[1,3]oxazino[2,3-e]purin-2-yl)pyrimidin-2-amine,

5-(4-morpholino-6-(trifluoromethyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyridin-2-amine,

5-(6,6-(hexadeuterio)dimethyl-4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

(S)-5-(6-ethyl-6-methyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

5-(6,6,9-trimethyl-4-morpholino-6h-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

(R)-5-(6-ethyl-6-methyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

5-(1-morpholin-4-yl-5,6,8a,9-tetrahydro-8h-7,10-dioxa-2,4,4b-triaza-phenanthren-3-yl)-pyrimidin-2-ylamine,

5-((S)-6-Morpholin-4-yl-2,3,3a,4-tetrahydro-1*H*-5-oxa-7,9,9b-triaza-cyclopenta[a]naphthalen-8-yl)-pyrimidin-2-ylamine,

4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6*H*-[1,4]oxazino[3,4-e]purin-2-yl)aniline,

1-(4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6*H*-[1,4]oxazino[3,4-e]purin-2-yl)phenyl)-3-methylurea,

6,6-dimethyl-4-morpholino-2-(1H-pyrazol-4-yl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyridin-2-amine,

6,6-dimethyl-2-(1-methyl-1H-pyrazol-4-yl)-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

3-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenol,

2-(1H-indazol-5-yl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

6,6-dimethyl-2-(2-(4-methylpiperazin-1-yl)yridine-4-yl)-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

N-(2-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenyl)methanesulfonamide,

6,6-dimethyl-4-morpholino-2-(6-morpholinopyridin-3-yl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

2-(1-benzyl-1H-pyrazol-4-yl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

2-(2-isopropoxypyridin-3-yl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

N-(2-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenyl)acetamide,

2-(3,5-dimethyl-1H-pyrazol-4-yl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyridine-2-ol,

6-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyridine-3-amine,

(R)-5-(4-morpholino-6-(trifluoromethyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

(S)-5-(4-morpholino-6-(trifluoromethyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

2-(1-ethyl-1H-pyrazol-4-yl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)-N,N-dimethylbenzamide,

tert-butyl 4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenyl(methyl)carbamate,

2-(3-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenyl)acetonitrile,

6,6-dimethyl-4-morpholino-2-(3-morpholinophenyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

6,6-dimethyl-4-morpholino-2-(3-(morpholinomethyl)phenyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

2-(3-(benzyloxy)phenyl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

2-(1-isobutyl-1H-pyrazol-4-yl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

6,6-dimethyl-2-(6-(4-methylpiperazin-1-yl)yridine-3-yl)-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

2-(1H-indazol-4-yl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)benzonitrile,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)nicotinamide,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)-N-methylpicolinamide,

2-(4-(benzyloxy)phenyl)-6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

3-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)-N,N-dimethylaniline,

6,6-dimethyl-2-(4-(4-methylpiperazin-1-yl)phenyl)-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

6,6-dimethyl-4-morpholino-2-(4-(piperidin-1-yl)phenyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

N-(5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyridine-2-yl)acetamide,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)picolinamide,

6-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyridine-3-ol

(4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenyl)(4-methylpiperazin-1-yl)methanone,

N-cyclopropyl-3-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)benzamide,

5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)-N,N-dimethylpyrazin-2-amine,

1-(4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenyl)-3-ethylurea,

1-(4-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenyl)-3-isopropylurea,

2-(2-aminopyrimidin-5-yl)-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine-6,6-diyl)dimethanol,

2-(2-aminopyrimidin-5-yl)-7-methyl-4-morpholino-8,9-dihydropyrazino[2,1-e]purin-6(7H)-one,

2-(1H-indazol-4-yl)-4-morpholino-6-(trifluoromethyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purine,

3-(4-morpholino-6-(trifluoromethyl)-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)phenol,

5-(4-((2S,6R)-2,6-dimethylmorpholino)-6,6-dimethyl-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

5-(4-(2,2-dimethylmorpholino)-6,6-dimethyl-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

N-(5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-yl)acetamide,

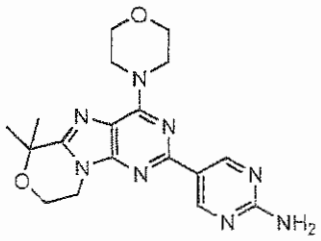
5-(4-((1S,4S)-2-oxa-5-azabicyclo[2.2.1]heptan-5-yl)-6,6-dimethyl-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine,

2-(2-aminopyrimidin-5-yl)-6-methyl-4-morpholino-6,7-dihydropyrazino[2,1-e]purin-8(9H)-one,

5-(6,7-dimethyl-4-morpholino-6,7,8,9-tetrahydropyrazino[2,1-e]purin-2-yl)pyrimidin-2-amine; and

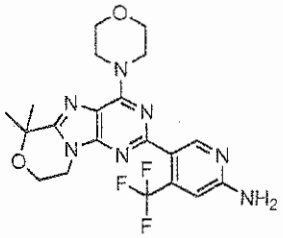
(5-(8,8-Dimethyl-1-morpholin-4-yl-5,6-dihydro-8H-7-oxa-2,4,4b-triaza-fluoren-3-yl)-pyrimidin-2-ylamine.

19. A compound of claim 1 which is



5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine.

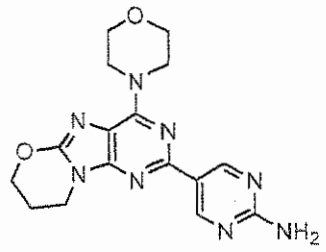
20. A compound of claim 1 which is



5-(6,6-dimethyl-4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)-4-

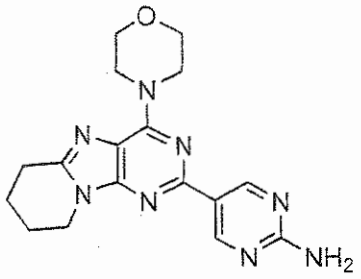
(trifluoromethyl)pyridyl-2-amine.

21. A compound of claim 1 which is



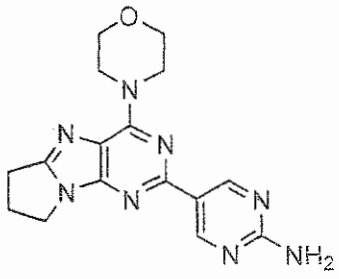
5-(4-morpholino-8,9-dihydro-7h-[1,3]oxazino[2,3-e]purin-2-yl)pyrimidin-2-amine.

22. A compound of claim 1 which is



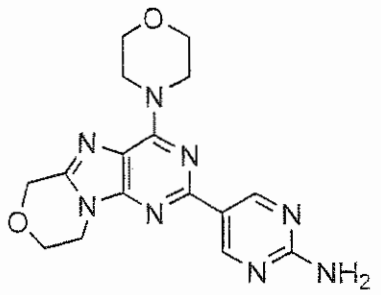
5-(4-morpholino-6,7,8,9-tetrahydropyrido[2,1-e]purin-2-yl)pyrimidin-2-amine.

23. A compound of claim 1 which is



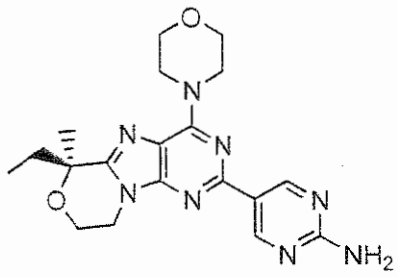
5-(4-morpholino-7,8-dihydro-6h-pyrrolo[2,1-e]purin-2-yl)pyrimidin-2-amine.

24. A compound of claim 1 which is



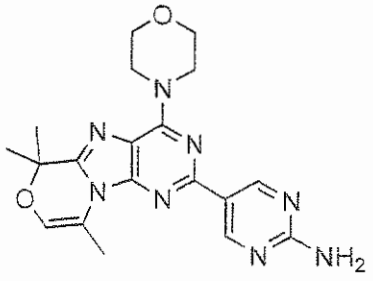
5-(4-morpholino-8,9-dihydro-6h-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine.

25. A compound of claim 1 which is



(S)-5-(6-ethyl-6-methyl-4-morpholino-8,9-dihydro-6H-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine.

26. A compound of claim 1 which is



5-(6,6,9-trimethyl-4-morpholino-6h-[1,4]oxazino[3,4-e]purin-2-yl)pyrimidin-2-amine.

27. A pharmaceutical composition comprised of a compound of any one of claims 1-26 and a pharmaceutically acceptable carrier, glidant, diluent, or excipient.

28. The pharmaceutical composition according to claim 27, further comprising an additional therapeutic agent selected from a chemotherapeutic agent, an anti-inflammatory agent, an immunomodulatory agent, a neurotropic factor, an agent for treating cardiovascular disease, an agent for treating liver disease, an anti-viral agent, an agent for treating blood disorders, an agent for treating diabetes, and an agent for treating immunodeficiency disorders.

29. A compound of any one of claims 1-26 for use as therapeutically active substance.

30. The use of a compound of any one of claims 1-26 for the preparation of a medicament for treating cancer.

31. The use of claim 30, wherein the cancer is selected from breast, ovary, cervix, prostate, testis, genitourinary tract, esophagus, larynx, glioblastoma, neuroblastoma, stomach, skin, keratoacanthoma, lung, epidermoid carcinoma, large cell carcinoma, non-small cell lung carcinoma (NSCLC), small cell carcinoma, lung adenocarcinoma, bone, colon, adenoma, pancreas, adenocarcinoma, thyroid, follicular carcinoma, undifferentiated carcinoma, papillary carcinoma, seminoma, melanoma, sarcoma, bladder carcinoma, liver carcinoma and biliary passages, kidney carcinoma, renal, pancreatic, myeloid disorders, lymphoma, hairy cells, buccal cavity, naso-pharyngeal, pharynx, lip, tongue, mouth, small intestine, colon-rectum, large intestine, rectum, brain and central nervous system, Hodgkin's or leukemia.

32. The use of claim 31, wherein the cancer is a brain cancer.

33. The use of any one of claims 30 to 32, further comprising an additional therapeutic agent selected from a chemotherapeutic agent, an anti-angiogenesis therapeutic agent, an anti-inflammatory agent, an immunomodulatory agent, a neurotropic factor, an agent for treating cardiovascular disease, an agent for treating liver disease, an anti-viral agent, an agent for treating blood disorders, an agent for treating diabetes, and an agent for treating immunodeficiency disorders.

34. The use of claim 33, wherein the additional therapeutic agent is bevacizumab.

35. A compound of any one of claims 1-26 for use in treating cancer.