

X and Y are independently selected from the group consisting of O and NR<sub>7</sub>;

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- R<sub>3x</sub>, R<sub>3y</sub>, R<sub>3z</sub>, R<sub>3p</sub> are independently selected from the group consisting of hydrogen and C<sub>1</sub>-C<sub>12</sub> alkyl; and R<sub>4</sub> is independently selected from the group consisting of hydrogen, D, F, Cl, Br, I, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>2</sub>-C<sub>8</sub> alkenyl, C<sub>2</sub>-C<sub>8</sub> alkynyl, -(C<sub>1</sub>-C<sub>12</sub> alkylene)-(C<sub>3</sub>-C<sub>12</sub> carbocyclyl), -(C<sub>1</sub>-C<sub>12</sub> alkylene)-(heterocyclyl having 3-20 ring atoms), -(C<sub>1</sub>-C<sub>12</sub> alkylene)-C(=O)-(heterocyclyl having 3-20 ring atoms), -(C<sub>1</sub>-C<sub>12</sub> alkylene)-(C<sub>6</sub>-C<sub>20</sub> aryl) and -(C<sub>1</sub>-C<sub>12</sub> alkylene)-(heteroaryl having 5-20 ring atoms), -C(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>t</sub>NR<sub>5</sub>R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>NR<sub>7</sub>C(=Z)R<sub>8</sub>, (CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>NR<sub>7</sub>S(O)<sub>2</sub>R<sub>5</sub>, -CH(OR<sub>5</sub>)R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>OR<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>S(O)<sub>2</sub>R<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>S(O)<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -C(=Z)R<sub>5</sub>, -C(=Z)OR<sub>5</sub>, C(=Z)NR<sub>5</sub>R<sub>6</sub>, -C(=Z)NR<sub>7</sub>OR<sub>5</sub>, -C(=O)NR<sub>7</sub>S(O)<sub>2</sub>R<sub>5</sub>, -C(=O)NR<sub>7</sub>(CR<sub>8</sub>R<sub>9</sub>)<sub>m</sub>NR<sub>5</sub>R<sub>6</sub>, -NO<sub>2</sub>, -NHR<sub>7</sub>, -NR<sub>7</sub>C(=Z)R<sub>5</sub>, -NR<sub>7</sub>C(=Z)OR<sub>5</sub>, -NR<sub>7</sub>C(=Z)NR<sub>5</sub>R<sub>6</sub>, -NR<sub>7</sub>S(O)<sub>2</sub>R<sub>5</sub>, -NR<sub>7</sub>SO<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -S(O)<sub>2</sub>R<sub>5</sub>, -S(O)<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -SC(=Z)R<sub>5</sub>, -SC(=Z)OR<sub>5</sub>, C<sub>3</sub>-C<sub>12</sub> carbocyclyl, C<sub>2</sub>-C<sub>20</sub> heterocyclyl, C<sub>6</sub>-C<sub>20</sub> aryl, and C<sub>1</sub>-C=NR<sub>7</sub>, OR<sub>5</sub>, -OC(=Z)R<sub>5</sub>, -OC(=Z)OR<sub>5</sub>, -OC(=Z)NR<sub>5</sub>R<sub>6</sub>, and -OS(O)<sub>2</sub>(OR<sub>5</sub>);
- 20 R<sub>4x</sub>, R<sub>4y</sub>, R<sub>4z</sub>, and R<sub>4p</sub> are independently selected from the group consisting of hydrogen, D, F, Cl, Br, I, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>2</sub>-C<sub>8</sub> alkenyl, C<sub>2</sub>-C<sub>8</sub> alkynyl, or one or two of R<sub>4x</sub>, R<sub>4y</sub>, R<sub>4z</sub>, and R<sub>4p</sub> are two geminal substituents methyl and the other ones are hydrogen, or R<sub>4x</sub> and R<sub>4y</sub>, or R<sub>4z</sub> and R<sub>4p</sub> form together an annulated five- or six-membered carbocyclyl, heterocyclyl, aryl or heteroaryl ring, or R<sub>4x</sub> and R<sub>4y</sub> form together bridging ethylene or methylene, R<sub>4p</sub> and R<sub>4z</sub> form together bridging ethylene or methylene, or R<sub>4y</sub> and R<sub>4p</sub> form together bridging ethylene or methylene;
- 25

- wherein said alkyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl, aryl and heteroaryl are optionally substituted with one or more groups independently selected from F, Cl, Br, I, CN, CF<sub>3</sub>, NO<sub>2</sub>, oxo, -C(=Z)R<sub>5</sub>, -C(=Z)OR<sub>5</sub>, -C(=Z)NR<sub>5</sub>R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>NR<sub>5</sub>R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>C(=Z)NR<sub>5</sub>R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>C(=Z)OR<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>NR<sub>7</sub>SO<sub>2</sub>R<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>OR<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>R<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>SO<sub>2</sub>R<sub>5</sub>, -NR<sub>5</sub>R<sub>6</sub>, -NR<sub>7</sub>C(=Z)R<sub>5</sub>, -NR<sub>7</sub>C(=Z)OR<sub>5</sub>, -NR<sub>7</sub>C(=Z)NR<sub>5</sub>R<sub>6</sub>, -NR<sub>7</sub>SO<sub>2</sub>R<sub>5</sub>, -OP(OR<sub>5</sub>)(OR<sub>6</sub>), SR<sub>5</sub>, -S(O)R<sub>5</sub>, -S(O)<sub>2</sub>R<sub>5</sub>, -S(O)<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -S(O)(OR<sub>5</sub>),
- 30

$-S(O)_2(OR_5)$ ,  $-SC(=Z)R_5$ ,  $-SC(=Z)OR_5$ ,  $-SC(=Z)NR_5R_6$ ,  $C_1-C_{12}$  alkyl,  $C_2-C_8$  alkenyl,  $C_2-C_8$  alkynyl,  $C_3-C_{12}$  carbocyclyl,  $C_2-C_{20}$  heterocyclyl,  $C_6-C_{20}$  aryl, and  $C_1-C_{20}$  heteroaryl;

$R_5$ ,  $R_6$  and  $R_7$  are independently selected from H, D,  $C_1-C_{12}$  alkyl,  $C_2-C_8$  alkenyl,  $C_3-C_8$  alkynyl,  $C_3-C_{12}$  carbocyclyl,  $C_2-C_{20}$  heterocyclyl,  $C_6-C_{20}$  aryl, and  $C_1-C_{20}$  heteroaryl, or  $R_5$  and  $R_6$  together with the nitrogen to which they are attached form a  $C_3-C_{20}$  heterocyclic ring optionally containing one or more additional ring atoms selected from N, O or S, wherein said heterocyclic ring is optionally substituted with one or more groups independently selected from oxo,  $CF_3$ , F, Cl, Br, I,  $C_1-C_{12}$  alkyl,  $C_2-C_8$  alkenyl,  $C_2-C_8$  alkynyl,  $C_3-C_{12}$  carbocyclyl,  $C_2-C_{20}$  heterocyclyl,  $C_6-C_{20}$  aryl and  $C_1-C_{20}$  heteroaryl;

$R_8$  and  $R_9$  are independently selected from H, D,  $C_1-C_{12}$  alkyl, and  $-(CH_2)_n$ -aryl, or  $R_8$  and  $R_9$  together with the atoms to which they are attached form a saturated or partially unsaturated  $C_3-C_{12}$  carbocyclic ring;

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$m$  is 0, 1, 2, 3, 4, 5 or 6;

$n$  is 1, 2, 3, 4, 5, or 6;

$t$  is 2, 3, 4, 5 or 6; and

20  $R_2$  is independently selected from the groups consisting of a monocyclic or bicyclic aryl or heteroaryl with 1-6 heteroatoms selected from O, N, S, with 1-4 substituents selected from  $C_1-C_4$  alkyl, D, F, Cl, Br, I,  $-OR_5$ ,  $-COOH$ ,  $COOR_5$ ,  $-CONR_5R_6$ ,  $-SO_2NR_5R_6$ , CN,  $CF_3$ ,  $CHF_2$ ,  $CFH_2$ ,  $OCF_3$ ,  $OCOR_5$ ,  $NR_7COR_5$ ,  $NR_7SO_2R_5$ ,  $NR_5R_6$ ,  $SO_2R_5$ ,  $SOR_5$ , and  $SR_5$ .

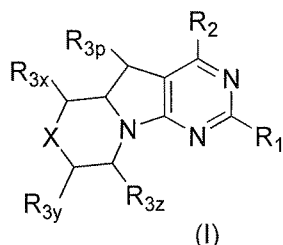
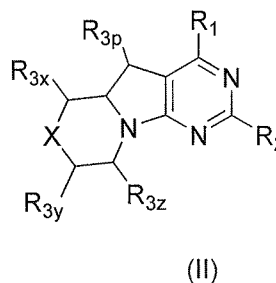
25 In another aspect, there is provided a pharmaceutical composition comprising a compound of the present invention and a pharmaceutically acceptable carrier.

The disclosure further relates to the use of these compounds as kinase inhibitors and kinase diagnostic probes, in particular as phosphoinositide 3-kinase (PI3K) and  
30 mammalian target of rapamycin (mTOR) inhibitor compounds with anti-cancer activity.

The compounds of the invention are potentially useful in the treatment of diseases, conditions and/or disorders modulated by PI3K and mTOR kinases. The compounds

## Claims

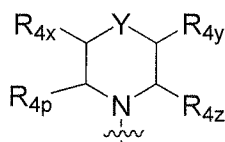
1. Compounds of formula (I) and (II),



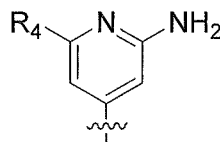
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and stereoisomers, geometric isomers, tautomers, solvates, and pharmaceutically acceptable salts thereof, wherein

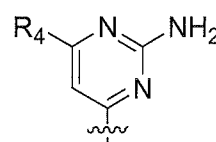
R<sub>1</sub> is



or



or



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X and Y are independently selected from the group consisting of O and NR<sub>7</sub>;

R<sub>3x</sub>, R<sub>3y</sub>, R<sub>3z</sub>, R<sub>3p</sub> are independently selected from the group consisting of hydrogen and  
 15 C<sub>1</sub>-C<sub>12</sub> alkyl; and R<sub>4</sub> is independently selected from the group consisting of hydrogen, D, F, Cl, Br, I, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>2</sub>-C<sub>8</sub> alkenyl, C<sub>2</sub>-C<sub>8</sub> alkynyl, -(C<sub>1</sub>-C<sub>12</sub> alkylene)- (C<sub>3</sub>-C<sub>12</sub> carbocyclyl), -(C<sub>1</sub>-C<sub>12</sub> alkylene)-(heterocyclyl having 3-20 ring atoms), -(C<sub>1</sub>-C<sub>12</sub> alkylene)-C(=O)-(heterocyclyl having 3-20 ring atoms), -(C<sub>1</sub>-C<sub>12</sub> alkylene)-(C<sub>6</sub>-C<sub>20</sub> aryl) and -(C<sub>1</sub>-C<sub>12</sub> alkylene)-(heteroaryl having 5-20 ring atoms), -C(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>,  
 20 -(CR<sub>8</sub>R<sub>9</sub>)<sub>t</sub>NR<sub>5</sub>R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>NR<sub>7</sub>C(=Z)R<sub>8</sub>, (CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>NR<sub>7</sub>S(O)<sub>2</sub>R<sub>5</sub>, -CH(OR<sub>5</sub>)R<sub>6</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>OR<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>S(O)<sub>2</sub>R<sub>5</sub>, -(CR<sub>8</sub>R<sub>9</sub>)<sub>n</sub>S(O)<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -C(=Z)R<sub>5</sub>, -C(=Z)OR<sub>5</sub>, C(=Z)NR<sub>5</sub>R<sub>6</sub>, -C(=Z)NR<sub>7</sub>OR<sub>5</sub>, -C(=O)NR<sub>7</sub>S(O)<sub>2</sub>R<sub>5</sub>, -C(=O)NR<sub>7</sub>(CR<sub>8</sub>R<sub>9</sub>)<sub>m</sub>NR<sub>5</sub>R<sub>6</sub>, -NO<sub>2</sub>, -NHR<sub>7</sub>, -NR<sub>7</sub>C(=Z)R<sub>5</sub>, -NR<sub>7</sub>C(=Z)OR<sub>5</sub>, -NR<sub>7</sub>C(=Z)NR<sub>5</sub>R<sub>6</sub>, -NR<sub>7</sub>S(O)<sub>2</sub>R<sub>5</sub>, -NR<sub>7</sub>SO<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -S(O)<sub>2</sub>R<sub>5</sub>, -S(O)<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, -SC(=Z)R<sub>5</sub>, -SC(=Z)OR<sub>5</sub>, C<sub>3</sub>-C<sub>12</sub> carbocyclyl, C<sub>2</sub>-C<sub>20</sub> heterocyclyl,  
 25 C<sub>6</sub>-C<sub>20</sub> aryl, and C<sub>1</sub>-C=NR<sub>7</sub>, OR<sub>5</sub>, -OC(=Z)R<sub>5</sub>, -OC(=Z)OR<sub>5</sub>, -OC(=Z)NR<sub>5</sub>R<sub>6</sub>, and -OS(O)<sub>2</sub>(OR<sub>5</sub>);

$R_{4x}$ ,  $R_{4y}$ ,  $R_{4z}$ , and  $R_{4p}$  are independently selected from the group consisting of hydrogen, D, F, Cl, Br, I,  $C_1$ - $C_{12}$  alkyl,  $C_2$ - $C_8$  alkenyl,  $C_2$ - $C_8$  alkynyl, or one or two of  $R_{4x}$ ,  $R_{4y}$ ,  $R_{4z}$ , and  $R_{4p}$  are two geminal substituents methyl and the other ones are hydrogen, or  $R_{4x}$  and  $R_{4y}$ , or  $R_{4z}$  and  $R_{4p}$  form together an annulated five- or six-membered carbocyclyl, heterocyclyl, aryl or heteroaryl ring, or  $R_{4x}$  and  $R_{4y}$  form together bridging ethylene or methylene,  $R_{4p}$  and  $R_{4z}$  form together bridging ethylene or methylene, or  $R_{4y}$  and  $R_{4p}$  form together bridging ethylene or methylene;

wherein said alkyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl, aryl and heteroaryl are optionally substituted with one or more groups independently selected from F, Cl, Br, I, CN,  $CF_3$ ,  $NO_2$ , oxo,  $-C(=Z)R_5$ ,  $-C(=Z)OR_5$ ,  $-C(=Z)NR_5R_6$ ,  $-(CR_8R_9)_nNR_5R_6$ ,  $-(CR_8R_9)_nC(=Z)NR_5R_6$ ,  $-(CR_8R_9)_nC(=Z)OR_5$ ,  $-(CR_8R_9)_nNR_7SO_2R_5$ ,  $-(CR_8R_9)_nOR_5$ ,  $-(CR_8R_9)_nR_5$ ,  $-(CR_8R_9)_nSO_2R_5$ ,  $-NR_5R_6$ ,  $-NR_7C(=Z)R_5$ ,  $-NR_7C(=Z)OR_5$ ,  $-NR_7C(=Z)NR_5R_6$ ,  $-NR_7SO_2R_5$ ,  $-OP(OR_5)(OR_6)$ ,  $SR_5$ ,  $-S(O)R_5$ ,  $-S(O)_2R_5$ ,  $-S(O)_2NR_5R_6$ ,  $-S(O)(OR_5)$ ,  $-S(O)_2(OR_5)$ ,  $-SC(=Z)R_5$ ,  $-SC(=Z)OR_5$ ,  $-SC(=Z)NR_5R_6$ ,  $C_1$ - $C_{12}$  alkyl,  $C_2$ - $C_8$  alkenyl,  $C_2$ - $C_8$  alkynyl,  $C_3$ - $C_{12}$  carbocyclyl,  $C_2$ - $C_{20}$  heterocyclyl,  $C_6$ - $C_{20}$  aryl, and  $C_1$ - $C_{20}$  heteroaryl;

$R_5$ ,  $R_6$  and  $R_7$  are independently selected from H, D,  $C_1$ - $C_{12}$  alkyl,  $C_2$ - $C_8$  alkenyl,  $C_3$ - $C_8$  alkynyl,  $C_3$ - $C_{12}$  carbocyclyl,  $C_2$ - $C_{20}$  heterocyclyl,  $C_6$ - $C_{20}$  aryl, and  $C_1$ - $C_{20}$  heteroaryl, or  $R_5$  and  $R_6$  together with the nitrogen to which they are attached form a  $C_3$ - $C_{20}$  heterocyclic ring optionally containing one or more additional ring atoms selected from N, O or S, wherein said heterocyclic ring is optionally substituted with one or more groups independently selected from oxo,  $CF_3$ , F, Cl, Br, I,  $C_1$ - $C_{12}$  alkyl,  $C_2$ - $C_8$  alkenyl,  $C_2$ - $C_8$  alkynyl,  $C_3$ - $C_{12}$  carbocyclyl,  $C_2$ - $C_{20}$  heterocyclyl,  $C_6$ - $C_{20}$  aryl and  $C_1$ - $C_{20}$  heteroaryl;

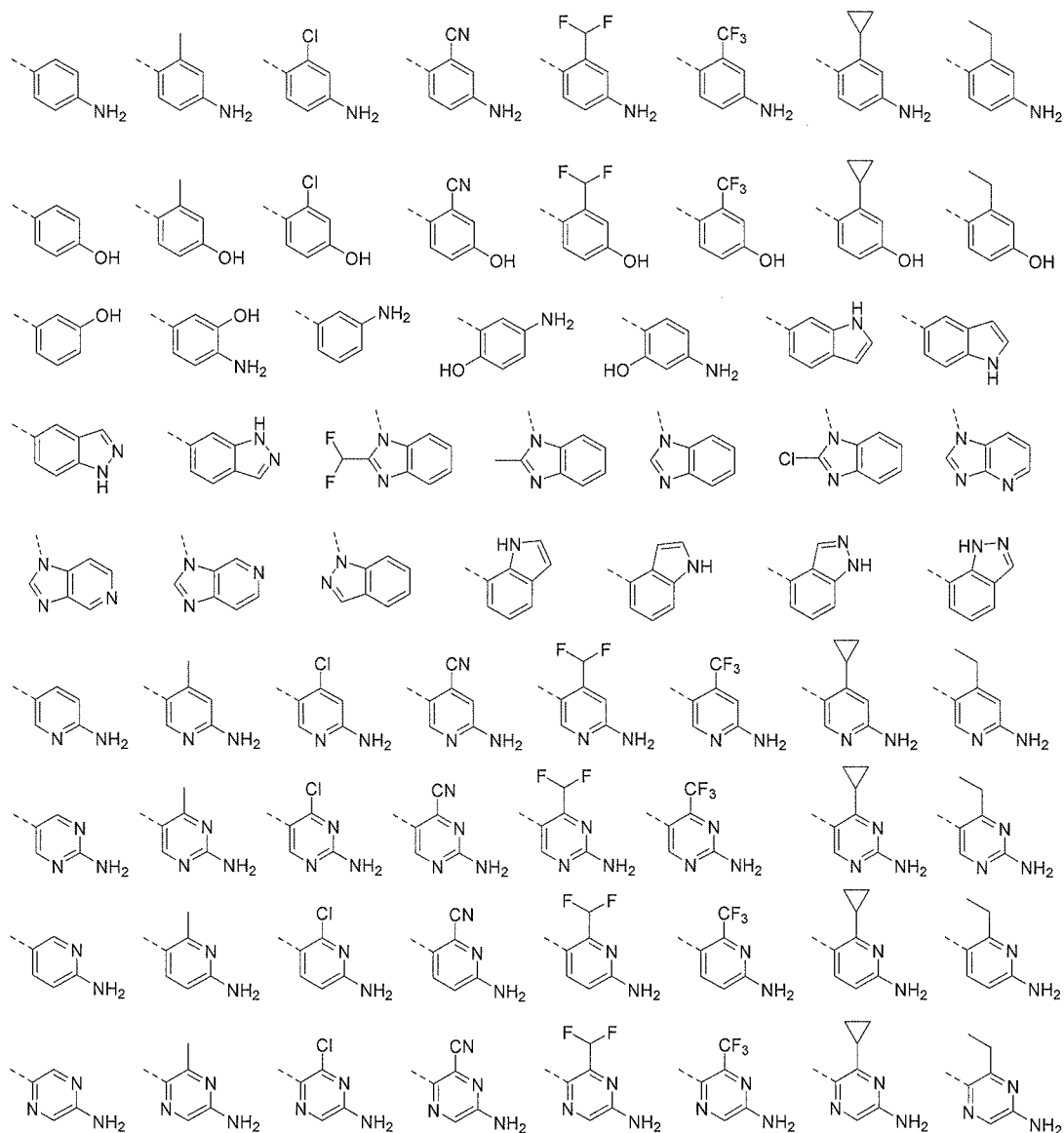
$R_8$  and  $R_9$  are independently selected from H, D,  $C_1$ - $C_{12}$  alkyl, and  $-(CH_2)_n$ -aryl, or  $R_8$  and  $R_9$  together with the atoms to which they are attached form a saturated or partially unsaturated  $C_3$ - $C_{12}$  carbocyclic ring;

m is 0, 1, 2, 3, 4, 5 or 6;  
n is 1, 2, 3, 4, 5, or 6;  
t is 2, 3, 4, 5 or 6; and

$R_2$  is independently selected from the groups consisting of a monocyclic or bicyclic aryl or heteroaryl with 1-6 heteroatoms selected from O, N, S, with 1-4 substituents selected

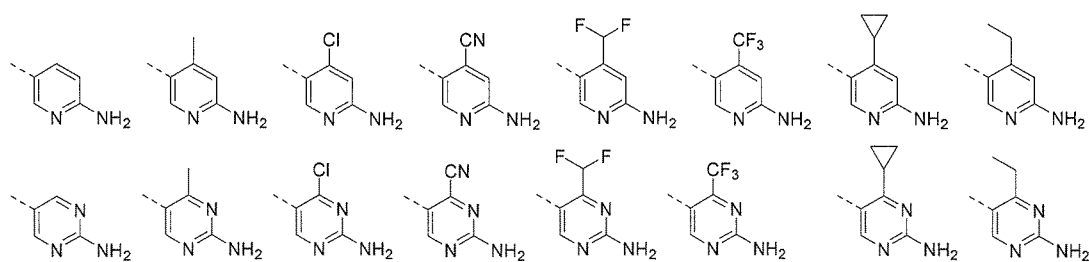
from C<sub>1</sub>-C<sub>4</sub> alkyl, D, F, Cl, Br, I, -OR<sub>5</sub>, -COOH, COOR<sub>5</sub>, -CONR<sub>5</sub>R<sub>6</sub>, -SO<sub>2</sub>NR<sub>5</sub>R<sub>6</sub>, CN, CF<sub>3</sub>, CHF<sub>2</sub>, CFH<sub>2</sub>, OCF<sub>3</sub>, OCOR<sub>5</sub>, NR<sub>7</sub>COR<sub>5</sub>, NR<sub>7</sub>SO<sub>2</sub>R<sub>5</sub>, NR<sub>5</sub>R<sub>6</sub>, SO<sub>2</sub>R<sub>5</sub>, SOR<sub>5</sub>, and SR<sub>5</sub>.

2. The compound of claim 1 wherein R<sub>2</sub> is



wherein the dotted line indicates the point of attachment of R<sub>2</sub>, the amino function may be further substituted with C<sub>1</sub>-C<sub>8</sub>-acyl, oxycarbonyl or aminocarbonyl, and the other substituents have the meaning indicated in claim 1.

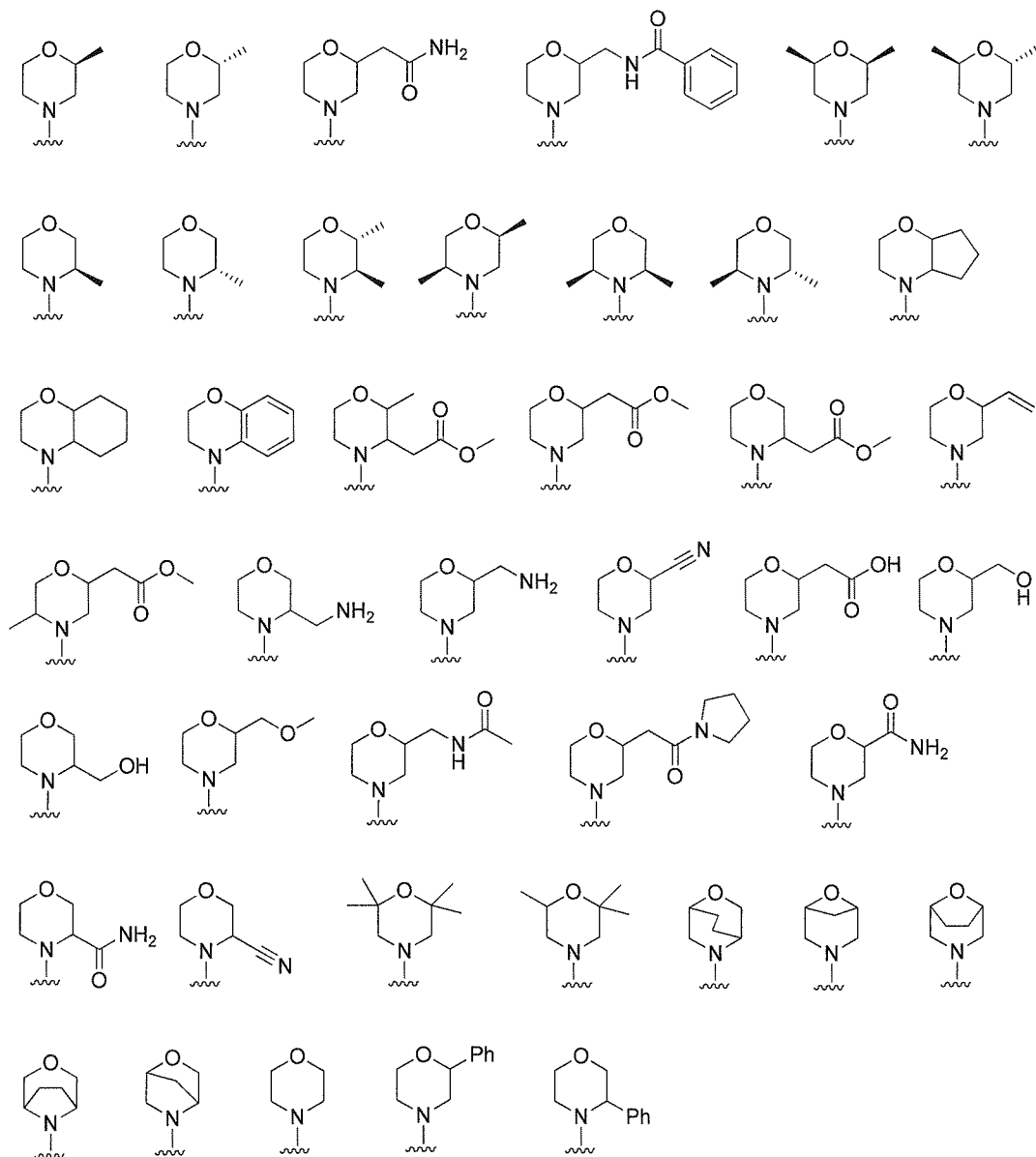
3. The compound of claim 1 wherein R<sub>2</sub> is



wherein the dotted line indicates the point of attachment of  $\text{R}_2$ , the amino function may be further substituted with  $\text{C}_1\text{-C}_8$ -acyl, oxycarbonyl or aminocarbonyl, and the other

5 substituents have the meaning indicated in claim 1.

4. The compound of any of claims 1 to 3 wherein R<sub>1</sub> is



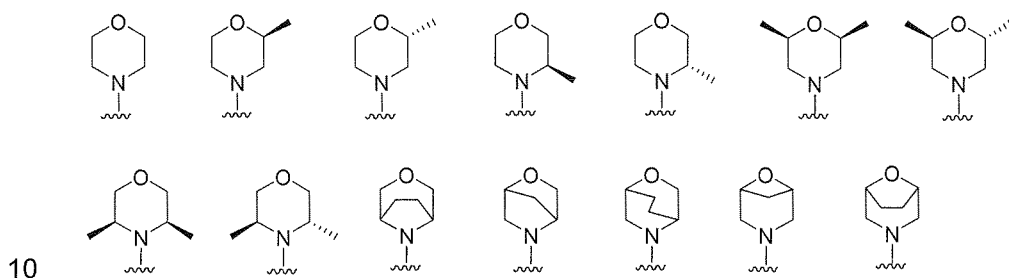
optionally further substituted with one or more groups independently selected from D, F,

- 5 Cl, Br, I, -CH<sub>3</sub>, -CH<sub>2</sub>CH<sub>3</sub>, -CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -CH(CH<sub>3</sub>)<sub>2</sub>, -C(CH<sub>3</sub>)<sub>3</sub>, -CH<sub>2</sub>OCH<sub>3</sub>, -CHF<sub>2</sub>, -CN, -CF<sub>3</sub>, -CH<sub>2</sub>OH, -CH<sub>2</sub>OCH<sub>3</sub>, -CH<sub>2</sub>CH<sub>2</sub>OH, -CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>OH, -CH(CH<sub>3</sub>)OH, -CH(CH<sub>2</sub>CH<sub>3</sub>)OH, -CH<sub>2</sub>CH(OH)CH<sub>3</sub>, -C(CH<sub>3</sub>)<sub>2</sub>OH, -C(CH<sub>3</sub>)<sub>2</sub>OCH<sub>3</sub>, -CH(CH<sub>3</sub>)F, -C(CH<sub>3</sub>)F<sub>2</sub>, -CH(CH<sub>2</sub>CH<sub>3</sub>)F, -C(CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub>F, -CO<sub>2</sub>H, -CONH<sub>2</sub>, -CON(CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub>, -COCH<sub>3</sub>, -CON(CH<sub>3</sub>)<sub>2</sub>, -NO<sub>2</sub>, -NH<sub>2</sub>, -NHCH<sub>3</sub>, -N(CH<sub>3</sub>)<sub>2</sub>, -NHCH<sub>2</sub>CH<sub>3</sub>, -NHCH(CH<sub>3</sub>)<sub>2</sub>, -NHCH<sub>2</sub>CH<sub>2</sub>OH, -NHCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>,  
10 -NHCOCH<sub>3</sub>, -NHCOCH<sub>2</sub>CH<sub>3</sub>, -NHCOCH<sub>2</sub>OH, -NHS(O)<sub>2</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)S(O)<sub>2</sub>CH<sub>3</sub>, =O, -OH,

-OCH<sub>3</sub>, -OCH<sub>2</sub>CH<sub>3</sub>, -OCH(CH<sub>3</sub>)<sub>2</sub>, -SH, -NHC(=O)NHCH<sub>3</sub>, -NHC(=O)NHCH<sub>2</sub>CH<sub>3</sub>,  
 -S(O)CH<sub>3</sub>, -S(O)CH<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>CH<sub>3</sub>, -S(O)<sub>2</sub>NH<sub>2</sub>, -S(O)<sub>2</sub>NHCH<sub>3</sub>, -S(O)<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>, and  
 -CH<sub>2</sub>S(O)<sub>2</sub>CH<sub>3</sub>;

- 5 wherein the dotted line indicates the point of attachment of R<sub>1</sub>, and the other substituents have the meanings indicated in claims 1, 2 or 3.

5. The compound of any of claims 1 to 3 wherein R<sub>1</sub> is



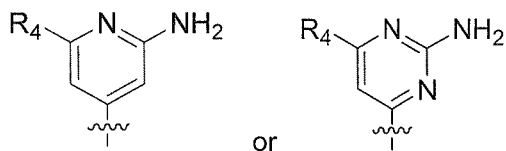
wherein the dotted line indicates the point of attachment of R<sub>1</sub>, and the other substituents have the meanings indicated in claims 1, 2 or 3.

- 15 6. The compound of any of claims 1 to 3 wherein R<sub>1</sub> is morpholino; and the other substituents have the meanings indicated in claims 1, 2 or 3.

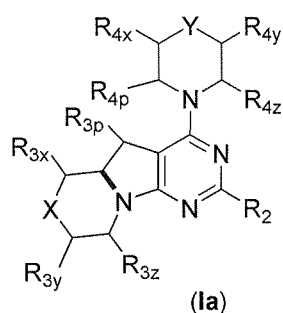
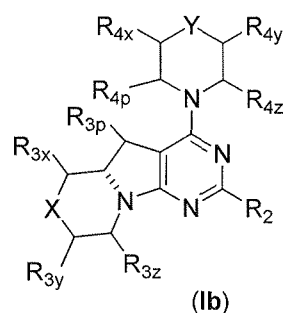
7. The compound of any of claims 1 to 6 wherein X is O.

- 20 8. The compound of any of claims 1 to 7 wherein R<sub>3x</sub>, R<sub>3y</sub>, R<sub>3z</sub>, and R<sub>3p</sub> are H.

9. The compound of any of claims 1 to 7 wherein R<sub>1</sub> is



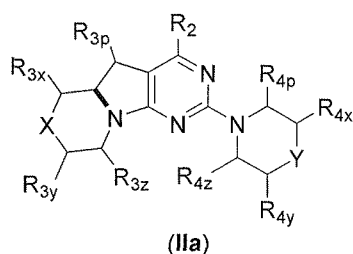
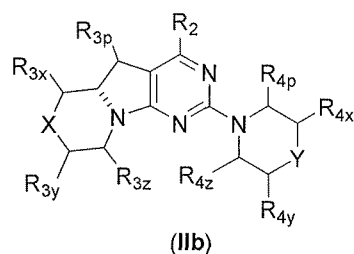
- 25 10. The compound of any of claims 1 to 9 having formula (Ia) or (Ib)



and stereoisomers, geometric isomers, tautomers, solvates, and pharmaceutically acceptable salts thereof, wherein the substituents are as defined as in claims 1 to 9.

5

11. The compound of any of claims 1 to 9 having formula (IIa) or (IIb)



10 and stereoisomers, geometric isomers, tautomers, solvates, and pharmaceutically acceptable salts thereof, wherein the substituents are as defined as in claims 1 to 9.

12. The compound of claim 1 selected from the group consisting of

- 15 - (R)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- (R)-4-methyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- (R)-4-chloro-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- 20 - (R)-2-amino-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)isonicotinonitrile
- (R)-4-(difluoromethyl)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine

- (R)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyridin-2-amine
- (R)-4-cyclopropyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- 5 - (R)-4-ethyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- (R)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (R)-4-methyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- 10 - (R)-4-chloro-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (R)-2-amino-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidine-4-carbonitrile
- 15 - (R)-4-(difluoromethyl)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (R)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyrimidin-2-amine
- (R)-4-cyclopropyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- 20 - (R)-4-ethyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (S)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- 25 - (S)-4-methyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- (S)-4-chloro-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- (S)-2-amino-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)isonicotinonitrile
- 30 - (S)-4-(difluoromethyl)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- (S)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyridin-2-amine

- (S)-4-cyclopropyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- (S)-4-ethyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-amine
- 5 - (S)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (S)-4-methyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (S)-4-chloro-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- 10 - (S)-2-amino-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidine-4-carbonitrile
- (S)-4-(difluoromethyl)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- 15 - (S)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyrimidin-2-amine
- (S)-4-cyclopropyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (S)-4-ethyl-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- 20 - (R)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- (R)-4-methyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- 25 - (R)-4-chloro-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- (R)-2-amino-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)isonicotinonitrile
- (R)-4-(difluoromethyl)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- 30 - (R)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)-4-(trifluoromethyl)pyridin-2-amine
- (R)-4-cyclopropyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine

- (R)-4-ethyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- (R)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- 5 - (R)-4-methyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (R)-4-chloro-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (R)-2-amino-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)isonicotinonitrile
- 10 - (R)-4-(difluoromethyl)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (R)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)-4-(trifluoromethyl)pyrimidin-2-amine
- 15 - (R)-4-cyclopropyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (R)-4-ethyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (S)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- 20 - (S)-4-methyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- (S)-4-chloro-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- 25 - (S)-2-amino-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)isonicotinonitrile
- (S)-4-(difluoromethyl)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- (S)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)-4-(trifluoromethyl)pyridin-2-amine
- 30 - (S)-4-cyclopropyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine
- (S)-4-ethyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyridin-2-amine

- (S)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (S)-4-methyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- 5 - (S)-4-chloro-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (S)-2-amino-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)isonicotinonitrile
- (S)-4-(difluoromethyl)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo
- 10 [2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (S)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)-4-(trifluoromethyl)pyrimidin-2-amine
- (S)-4-cyclopropyl-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo
- [2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine, - (S)-4-ethyl-5-(2-morpholino-5a,6,8,9-
- 15 tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- (R)-1-methyl-3-(4-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)phenyl)urea
- (R)-1-methyl-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-yl)urea
- 20 - (R)-1-methyl-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-yl)urea
- methyl (R)-(4-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)phenyl)carbamate
- methyl (R)-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-yl)carbamate
- 25 [1,4]oxazin-2-yl)pyridin-2-yl)carbamate
- methyl (R)-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-yl)carbamate
- (R)-1-(4-(4-(dimethylamino)piperidine-1-carbonyl)phenyl)-3-(4-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)phenyl)urea
- 30 - (R)-1-(4-(4-(dimethylamino)piperidine-1-carbonyl)phenyl)-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-yl)urea
- (R)-1-(4-(4-(dimethylamino)piperidine-1-carbonyl)phenyl)-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-yl)urea
- (R)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]thiazin-
- 35 2-yl)-4-(trifluoromethyl)pyridin-2-amine

- (5aR)-2-(6-amino-4-(trifluoromethyl)pyridin-3-yl)-4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]thiazine 7-oxide
- (R)-2-(6-amino-4-(trifluoromethyl)pyridin-3-yl)-4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]thiazine 7,7-dioxide
- 5 - 5-((5aR)-4-(8-oxa-3-azabicyclo[3.2.1]octan-3-yl)-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyridin-2-amine
- (S)-1-methyl-3-(4-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)phenyl)urea
- (S)-1-methyl-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-yl)urea
- 10 [1,4]oxazin-2-yl)pyridin-2-yl)urea
- (S)-1-methyl-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-yl)urea
- methyl (S)-(4-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)phenyl)carbamate
- 15 - methyl (S)-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-yl)carbamate
- methyl (S)-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-yl)carbamate
- (S)-1-(4-(4-(dimethylamino)piperidine-1-carbonyl)phenyl)-3-(4-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)phenyl)urea
- 20 - (S)-1-(4-(4-(dimethylamino)piperidine-1-carbonyl)phenyl)-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyridin-2-yl)urea
- (S)-1-(4-(4-(dimethylamino)piperidine-1-carbonyl)phenyl)-3-(5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-yl)urea
- 25 - (S)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]thiazin-2-yl)-4-(trifluoromethyl)pyridin-2-amine
- (5aS)-2-(6-amino-4-(trifluoromethyl)pyridin-3-yl)-4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]thiazine 7-oxide
- (S)-2-(6-amino-4-(trifluoromethyl)pyridin-3-yl)-4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]thiazine 7,7-dioxide
- 30 - 5-((5aS)-4-(8-oxa-3-azabicyclo[3.2.1]octan-3-yl)-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyridin-2-amine

13. The compound of claim 1 selected from the group consisting of

- (R)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyridin-2-amine,
  - (S)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)-4-(trifluoromethyl)pyridin-2-amine,
- 5    - (R)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)-4-(trifluoromethyl)pyridin-2-amine, and
- (S)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)-4-(trifluoromethyl)pyridin-2-amine.
- 10    14. The compound of claim 1 selected from the group consisting of
- (R)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
  - (S)-5-(2-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-4-yl)pyrimidin-2-amine
- 15    - (R)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- (S)-5-(4-morpholino-5a,6,8,9-tetrahydro-5H-pyrimido[5',4':4,5]pyrrolo[2,1-c][1,4]oxazin-2-yl)pyrimidin-2-amine
- 20    15. A pharmaceutical composition comprising a compound of any of claims 1 to 14 and a pharmaceutically acceptable carrier.
16. A compound of any one of claims 1 to 14 for use in the treatment of cancer.