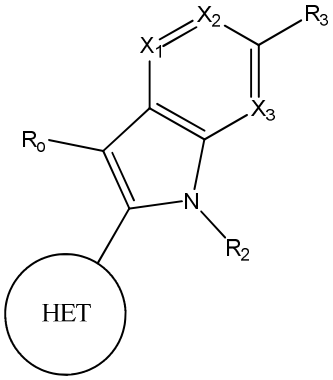
CLAIMS

1. A compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, having the structural formula Ie shown below:



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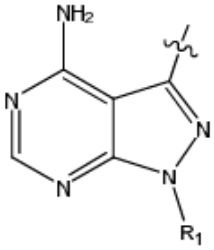
wherein:

HET is selected from:



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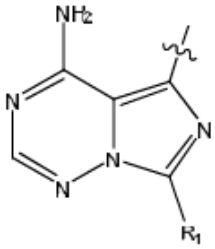

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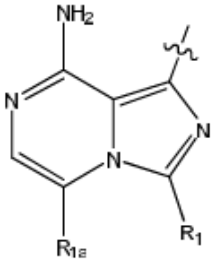

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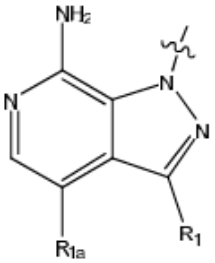

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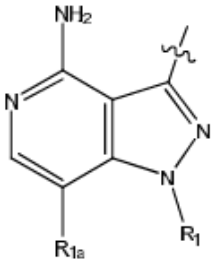

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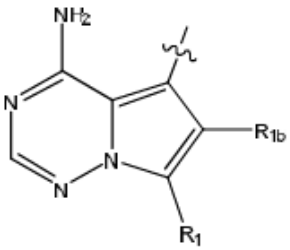

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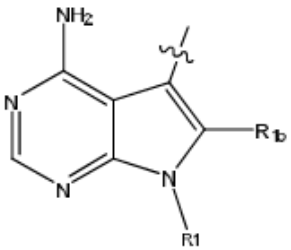

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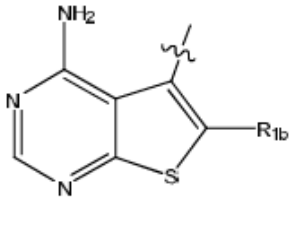

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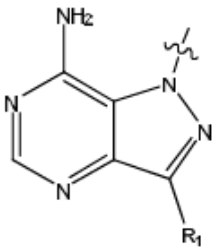

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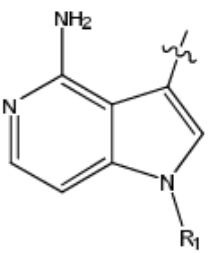

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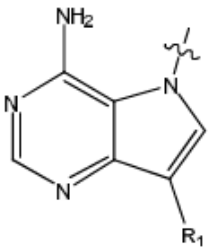

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wherein $\sim$ denotes the point of attachment;

R_1 is (1-4C)haloalkyl, (1-4C)haloalkoxy, or a group of the formula:

-L-Y-Q

wherein:

L is absent or is (1-5C)alkylene optionally substituted by one or more substituents selected from (1-2C)alkyl and oxo;

Y is absent or is O, S, SO, SO_2, or $N(R_a)$, wherein R_a is hydrogen or (1-4C)alkyl; and

Q is hydrogen, (1-6C)alkyl, (2-6C)alkenyl, (2-6C)alkynyl, aryl, (3-10C)cycloalkyl, (3-10C)cycloalkenyl, heteroaryl, or heterocyclyl;

wherein Q is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, (1-4C)aminoalkyl, cyano, hydroxy, carboxy,NR_cR_d, OR_c, $C(O)R_c$, $C(O)OR_c$, $OC(O)R_c$, $C(O)N(R_d)R_c$, $N(R_d)C(O)R_c$, $S(O)_yR_c$ where y is 0, 1 or 2, $SO_2N(R_d)R_c$, and $(CH_2)_zNR_cR_d$ where z is 1, 2 or 3; wherein R_c and R_d are each independently hydrogen, (1-6C)alkyl or (3-6C)cycloalkyl;

R_{1a} and R_{1b} are each independently hydrogen, (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-4C)alkoxy, or (1-4C)alkylamino;

X_1 and X_2 are each independently N or CR_k;

wherein each R_k is independently hydrogen, halo, (1-4C)alkyl, or (1-4C)alkoxy; wherein said (1-4C)alkyl is optionally substituted by one or more substituents selected from amino, hydroxy, (1-2C)alkoxy and halo;

X_3 is N or CR_m;

wherein R_m is hydrogen, halo, (1-4C)alkyl, or (1-4C)alkoxy; wherein said (1-4C)alkyl is optionally substituted by one or more substituents selected from amino, hydroxy, (1-2C)alkoxy and halo; and

R_o is halo or (1-4C)alkyl; wherein said (1-4C)alkyl is optionally substituted by one or more substituents selected from amino, hydroxy, (1-2C)alkoxy and halo;

R_2 is hydrogen, (1-4C)alkyl, or a group of the formula:

$-L_2-Y_2-Q_2$

wherein:

L_2 is absent or is (1-3C)alkylene optionally substituted by one or more substituents selected from (1-2C)alkyl and oxo;

Y_2 is absent; and

Q_2 is hydrogen, (1-6C)alkyl, aryl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Q_2 is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, cyano, hydroxy, and carboxy;

R_3 is selected from a group of the formula:

$$-Y_3-Q_3$$

wherein:

Y_3 is C(O), C(O)N(R_y), C(O)N(R_y)O, N(R_y)(O)C, C(O)O, OC(O), N(R_y)C(O)N(R_{y1}), SO_2N(R_y), N(R_y)SO_2, oxazolyl, or thiadiazolyl, wherein R_y and R_{y1} are independently hydrogen or (1-2C)alkyl; and

Q_3 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Q_3 is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, cyano, hydroxy, carboxy, NR_zR_{aa}, and OR_z, wherein R_z and R_{aa} are each independently hydrogen, (1-4C)alkyl or (3-6C)cycloalkyl; or Q_3 is optionally substituted by a group of the formula:

$$-L_4-L_{Q4}-Z_4$$

wherein:

L_4 is absent or is (1-3C)alkylene optionally substituted by one or more substituents selected from (1-2C)alkyl and oxo;

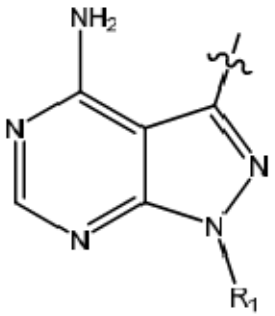
L_{Q4} is absent or is O, S, SO, SO_2, or N(R_{ab}), , wherein R_{ab} is hydrogen or (1-2C)alkyl; and

Z_4 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Z_4 is optionally substituted by one or more substituents selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-4C)alkoxy, (1-4C)alkylamino, amino, cyano, hydroxy, carboxy, aryl, heteroaryl, heterocycyl, and (3-6C)cycloalkyl; or

Q_3 and R_y are linked such that, together with the nitrogen atom to which they are attached, they form a 4-7 membered heterocyclic ring which is optionally substituted by one or more substituents selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-4C)alkoxy, (1-4C)alkylamino, amino, cyano and hydroxyl;

with the proviso that only one or two of X_1, X_2 or X_3 can be N.

2. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to claim 1, wherein HET is selected from: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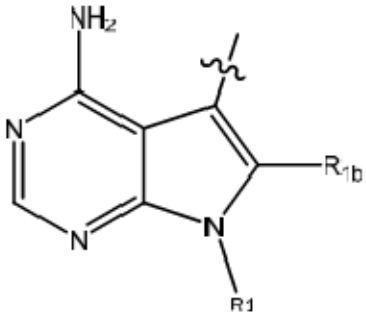
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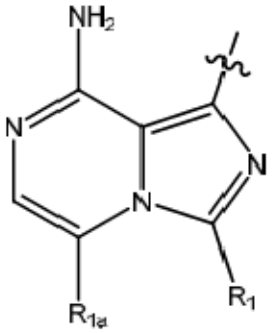
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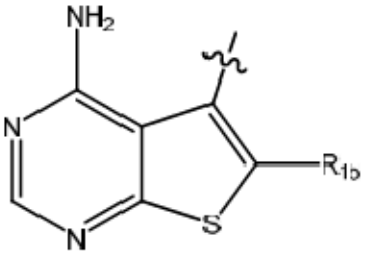
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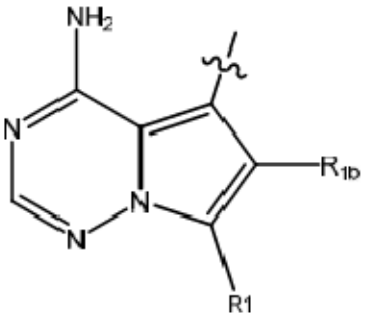
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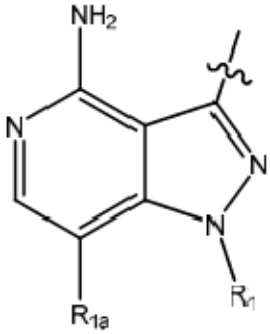
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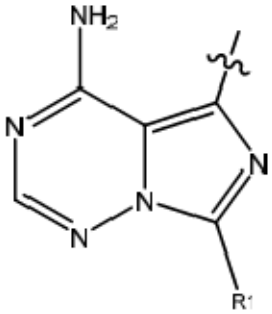
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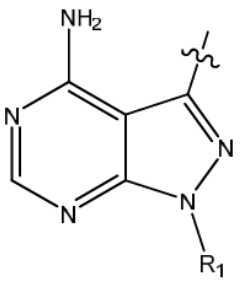
3. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to claim 1 or 2, wherein HET is selected from:



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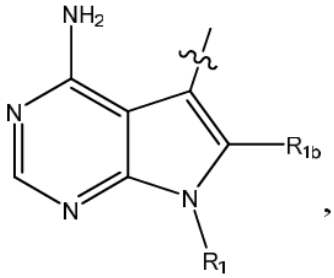

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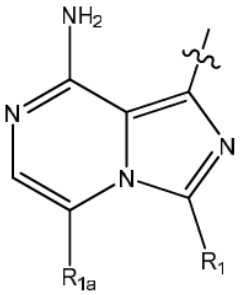

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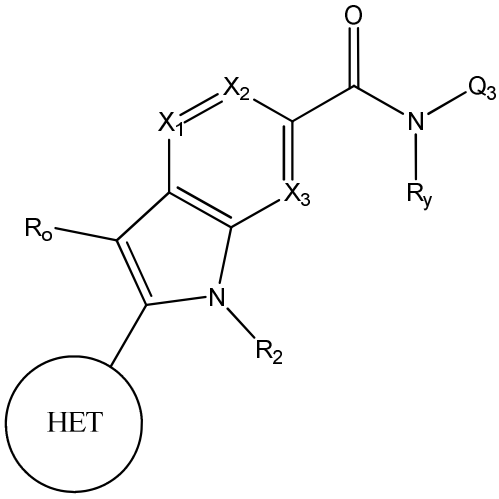
4. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 3, wherein the compound has the structural Formula If shown below:



If

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5. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 4, wherein X_1 and X_2 are each independently N or CR_k, wherein R_k is hydrogen, halo, or (1-4C)alkyl.

6. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 5, wherein X_3 is N or CR_m, wherein R_m is hydrogen, halo, or (1-4C)alkyl.

7. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 6, wherein R_o is halo or (1-4C)alkyl.

8. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 3, wherein R_3 is selected from a group of the formula:

$$-Y_3-Q_3$$

wherein:

Y_3 is C(O), C(O)N(R_y), C(O)N(R_y)O, N(R_y)(O)C, C(O)O, or OC(O), wherein R_y is hydrogen or (1-2C)alkyl; and

Q_3 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Q_3 is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, cyano, hydroxy, carboxy, NR_zR_{aa}, and OR_z, wherein R_z and R_{aa} are each independently hydrogen, (1-4C)alkyl or (3-6C)cycloalkyl; or Q_3 is optionally substituted by a group of the formula:

$$-L_4-L_{Q4}-Z_4$$

wherein:

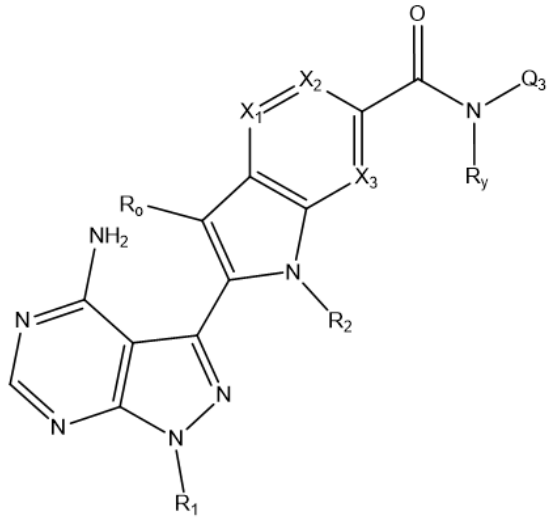
L_4 is absent or is (1-3C)alkylene optionally substituted by one or more substituents selected from (1-2C)alkyl and oxo;

L_{Q4} is absent or is O or N(R_{ab}), wherein R_{ab} is hydrogen or (1-2C)alkyl; and

Z_4 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Z_4 is optionally substituted by one or more substituents selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-4C)alkoxy, (1-4C)alkylamino, amino, cyano, hydroxy, carboxy, aryl, heteroaryl, heterocycyl, and (3-6C)cycloalkyl; or

Q_3 and R_y are linked such that they form a 4-7 membered heterocyclic ring which is optionally substituted by one or more substituents selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-4C)alkoxy, (1-4C)alkylamino, amino, cyano and hydroxyl.

9. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 8, wherein the compound has the structural Formula Ig shown below:



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10. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to claim 8 or 9, wherein R_o is halo or (1-4C)alkyl.

11. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 10, wherein R_o is halo.

12. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 11, wherein R_1 is (1-4C)haloalkyl, (1-4C)haloalkoxy or a group of the formula:

-L-Y-Q

wherein:

L is absent or is (1-3C)alkylene optionally substituted by one or more substituents selected from (1-2C)alkyl and oxo;

Y is absent; and

Q is hydrogen, (1-6C)alkyl, (2-6C)alkenyl, (2-6C)alkynyl, aryl, (3-10C)cycloalkyl, (3-10C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Q is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, (1-4C)aminoalkyl, cyano, hydroxy, carboxy,

NR_cR_d, OR_c, $C(O)R_c$, $C(O)OR_c$, $OC(O)R_c$, $C(O)N(R_d)R_c$, $N(R_d)C(O)R_c$, $S(O)_yR_c$ where y is 0, 1 or 2, $SO_2N(R_d)R_c$, and $(CH_2)_zNR_dR_c$ where z is 1, 2 or 3; wherein R_c and R_d are each independently hydrogen, (1-6C)alkyl or (3-6C)cycloalkyl.

13. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 12, wherein R_1 is (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-6C)alkyl, (2-6C)alkenyl, (2-6C)alkynyl, aryl, (3-10C)cycloalkyl, (3-10C)cycloalkenyl, heteroaryl or heterocyclyl; wherein each of said substituents is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, (1-4C)aminoalkyl, cyano, hydroxy, carboxy, NR_cR_d, OR_c, $C(O)R_c$, $C(O)OR_c$, $OC(O)R_c$, $C(O)N(R_d)R_c$, $N(R_d)C(O)R_c$, $S(O)_yR_c$ where y is 0, 1, or 2, $SO_2N(R_d)R_c$, and $(CH_2)_zNR_dR_c$ where z is 1, 2, or 3; wherein R_c and R_d are each independently hydrogen, (1-6C)alkyl or (3-6C)cycloalkyl.

14. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 13, wherein R_1 is (1-6C)alkyl or (3-10C)cycloalkyl; wherein each of said substituents is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, amino, (1-4C)aminoalkyl, cyano, hydroxy, carboxy, NR_cR_d, and OR_c ; wherein R_c and R_d are each independently hydrogen or (1-4C)alkyl.

15. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 14, wherein R_2 is hydrogen or (1-4C)alkyl.

16. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 1 to 15, wherein R_2 is hydrogen.

17. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 9 to 16, wherein Q_3 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Q_3 is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, cyano, hydroxy, carboxy, NR_zR_{aa}, and OR_z, wherein R_z and R_{aa} are each independently hydrogen, (1-4C)alkyl or (3-6C)cycloalkyl; or Q_3 is optionally substituted by a group of the formula:

$$-L_4-L_{Q4}-Z_4$$

wherein:

L_4 is absent or is (1-3C)alkylene;

L_{Q4} is absent or is O or N(R_{ab}), wherein R_{ab} is hydrogen or (1-2C)alkyl; and

Z_4 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Z_4 is optionally substituted by one or more substituents selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-4C)alkoxy, (1-4C)alkylamino, amino, cyano and hydroxy.

18. The compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, according to any one of claims 9 to 17, wherein Q_3 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, (3-8C)cycloalkenyl, heteroaryl or heterocyclyl; wherein Q_3 is optionally substituted by one or more substituent groups independently selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, amino, cyano, hydroxy, carboxy, NR_zR_{aa}, and OR_z, wherein R_z and R_{aa} are each independently hydrogen or (1-4C)alkyl; or Q_3 is optionally substituted by a group of the formula:

$$-L_{Q4}-Z_4$$

wherein:

L_{Q4} is absent or is O or N(R_{ab}), wherein R_{ab} is hydrogen or (1-2C)alkyl; and

Z_4 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-8C)cycloalkyl, heteroaryl or heterocyclyl; wherein Z_4 is optionally substituted by one or more substituents selected from (1-4C)alkyl, halo, (1-4C)haloalkyl, (1-4C)haloalkoxy, (1-4C)alkoxy, (1-4C)alkylamino, amino, cyano, and hydroxy.

19. A compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, which is selected from:

2-(4-Amino-1-isopropyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-(tert-butyl)-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl)-3-bromo-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-(2-methoxyethyl)-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[2-(dimethylamino)ethyl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-(2-morpholinoethyl)-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-(3-morpholinopropyl)-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-methoxy-1*H*-indole-6-carboxamide;

[2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-1*H*-indol-6-yl]-pyrrolidin-1-yl-methanone;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N,N-dimethyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[2-(2-methoxyethoxy)ethyl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-(3-methoxypropyl)-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-(2-hydroxyethyl)-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[2-(2-morpholinoethoxy)ethyl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[2-[2-(dimethylamino)ethoxy]ethyl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[3-(dimethylamino)propyl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[3-(1-piperidyl)propyl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-(3-isopropoxypropyl)-1*H*-indole-6-carboxamide;

2-[4-Amino-1-(2-hydroxyethyl)pyrazolo[3,4-d]pyrimidin-3-yl]-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-[4-Amino-1-(3-methoxypropyl)pyrazolo[3,4-d]pyrimidin-3-yl]-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-[4-Amino-1-(1-methylsulfonyl-4-piperidyl)pyrazolo[3,4-d]pyrimidin-3-yl]-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-methyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[1-(2-methoxyethyl)pyrazol-3-yl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[1-(2-morpholinoethyl)pyrazol-3-yl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[1-[2-(dimethylamino)ethyl]pyrazol-3-yl]-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[1-[2-(4-methylpiperazin-1-yl)ethyl]pyrazol-3-yl]-1*H*-indole-6-carboxamide;

2-[4-Amino-1-(2-aminoethyl)pyrazolo[3,4-d]pyrimidin-3-yl]-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-[1-(2-hydroxyethyl)pyrazol-3-yl]-1*H*-indole-6-carboxamide;

2-{4-Amino-1-cyclobutyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-{4-Amino-1-cyclohexyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-N-methyl-1*H*-indole-6-carboxamide;

2-{4-Amino-1-cyclopentyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-N-methyl-1*H*-indole-6-carboxamide;

2-(8-Amino-3-isopropylimidazo[1,5-a]pyrazin-1-yl)-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-fluoro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-tert-butyl-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-cyclohexyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-amino-7-isopropyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-(4-Amino-1-(tert-butyl)-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl)-3-chloro-1*H*-indole-6-carboxylic acid;

2-{4-Amino-1-tert-butyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-N-(oxan-4-yl)-1*H*-indole-6-carboxamide;

2-{4-Amino-1-tert-butyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-N-(propan-2-yl)-1*H*-indole-6-carboxamide;

2-{4-Amino-1-tert-butyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-N-ethyl-1*H*-indole-6-carboxamide;

2-{4-Amino-1-tert-butyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-N-cyclopropyl-1*H*-indole-6-carboxamide;

2-{4-Amino-1-tert-butyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-N-phenyl-1*H*-indole-6-carboxamide;

2-[4-Amino-1-(propan-2-yl)-1*H*-pyrazolo[4,3-c]pyridin-3-yl]-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-[4-Amino-1-(propan-2-yl)-1*H*-pyrazolo[4,3-c]pyridin-3-yl]-3-bromo-N-methyl-1*H*-indole-6-carboxamide;

2-{4-Aminothieno[2,3-d]pyrimidin-5-yl}-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-[4-Amino-7-(propan-2-yl)pyrrolo[2,1-f][1,2,4]triazin-5-yl]-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-[4-Amino-7-(propan-2-yl)imidazo[4,3-f][1,2,4]triazin-5-yl]-3-chloro-N-methyl-1*H*-indole-6-carboxamide;

2-{4-Amino-1-tert-butyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-N-methyl-1*H*-pyrrolo[2,3-b]pyridine-6-carboxamide;

1-(2-{4-Amino-1-tert-butyl-1*H*-pyrazolo[3,4-d]pyrimidin-3-yl}-3-chloro-1*H*-indol-6-yl)propan-1-one;

2-(4-Amino-1-(1-methylpiperidin-4-yl)-1*H*-pyrazolo[3,4-*d*]pyrimidin-3-yl)-3-chloro-*N*-cyclopropyl-1*H*-indole-6-carboxamide;

3-[3-Chloro-6-(1,3,4-thiadiazol-2-yl)-1*H*-indol-2-yl]-1-isopropyl-pyrazolo[3,4-d]pyrimidin-4-amine; and

3-(3-Chloro-6-oxazol-2-yl-1*H*-indol-2-yl)-1-isopropyl-pyrazolo[3,4-d]pyrimidin-4-amine.

20. The compound according to any one of claims 1 to 19, or a pharmaceutically acceptable salt, hydrate, or solvate thereof, for use in therapy.

21. A pharmaceutical composition comprising the compound according to any one of claims 1 to 19, or a pharmaceutically acceptable salt, hydrate, or solvate thereof, and a pharmaceutically acceptable carrier or excipient.

22. The compound according to any one of claims 1 to 19, or a pharmaceutically acceptable salt, hydrate, or solvate thereof, or a pharmaceutical composition according to claim 21, for use in the treatment of cancer.

23. The compound or the pharmaceutical composition for use according to claim 22, wherein said cancer is leukemia, lung cancer, colon cancer, breast cancer, ovarian cancer, prostate cancer, liver cancer, pancreatic cancer, brain cancer, skin cancer, medullary thyroid cancer or non-small cell lung cancer.

24. Use of the compound according to any one of claims 1 to 19, or a pharmaceutically acceptable salt, hydrate, or solvate thereof, or the pharmaceutical composition according to claim 21, in the manufacture of a medicament for the treatment of cancer in a subject, wherein the medicament is to be administered to the subject.

25. The use according to claim 24, wherein said cancer is leukemia, lung cancer, colon cancer, breast cancer, ovarian cancer, prostate cancer, liver cancer, pancreatic cancer, brain cancer, skin cancer, medullary thyroid cancer, or non-small cell lung cancer.

26. The compound or the pharmaceutical composition for use according to claim 22, wherein the cancer is a malignant neoplasm or a malignant tumor.

27. The compound or the pharmaceutical composition for use according to claim 22, wherein the cancer comprises a RET mutation.

28. The compound or the pharmaceutical composition for use according to claim 27, wherein the RET mutation is the RET fusion translocation *KIF5B-RET*.

29. The compound or the pharmaceutical composition for use according to claim 27, wherein the RET mutation is RET^{V804M}.

30. The compound or the pharmaceutical composition for use according to claim 22, wherein the compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, inhibits cell proliferation, regulates cell proliferation, inhibits angiogenesis, inhibits metastasis, inhibits invasion of tumor cells into neighboring normal structures, or promotes apoptosis.

31. The compound or the pharmaceutical composition for use according to claim 22, wherein the compound, or pharmaceutically acceptable salt, hydrate, or solvate thereof, selectively inhibits RET kinase enzyme activity, or enzyme activity of mutant forms thereof, over KDR enzyme activity ~~*in vitro* or *in vivo*~~, optionally wherein the mutant form is RET^{V804M}.

32. The use according to claim 24, wherein the cancer is a malignant neoplasm or a malignant tumor.

33. The use according to claim 24, wherein the cancer comprises a RET mutation.

34. The use according to claim 33, wherein the RET mutation is the RET fusion translocation *KIF5B-RET*.

35. The use according to claim 33, wherein the RET mutation is RET^{V804M}.