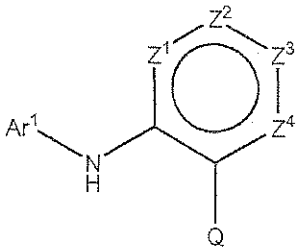
kinase are desirable. The present invention provides kinase inhibitors, specifically PIK kinase inhibitors, more specifically, mTOR inhibitors, which are useful for treating diseases mediated by kinases, specifically PIK kinases, more specifically, mTOR.

SUMMARY OF THE INVENTION

[0011] In a first aspect ~~1~~, the present invention refers to ~~provides~~ compounds of Formula I, or a pharmaceutically acceptable salt thereof,



I

wherein Ar^1 is a 5 to 10 membered monocyclic or bicyclic ring that can contain from zero to four heteroatoms independently selected from O, N or S, and which ring can be unsubstituted or substituted with groups independently selected from C_{1-4}haloalkyl, halo, oxo,-$OCHF_2$, -CN, nitro, $-C(=O)NR^aR^a$, $-C(=O)R^b$, $-C(=O)OR^b$, $-C(=NR^a)NR^aR^a$, $-OR^a$, $-OC(=O)R^b$, $-OC(=O)NR^aR^a$, $-O-C_{1-6}alkylN(R^a)C(=O)OR^b$, $-OC(=O)N(R^a)S(=O)_2R^b$, $-OC_{2-6}alkylNR^aR^a$, $-OC_{2-6}alkylOR^a$, $-SR^a$, $-S(=O)R^b$, $-S(=O)_2R^b$, $-S(=O)_2NR^aR^a$, $-S(=O)_2N(R^a)C(=O)R^b$, $-S(=O)_2N(R^a)C(=O)OR^b$, $-S(=O)_2N(R^a)C(=O)NR^aR^a$, $-NR^aR^a$, $-N(R^a)C(=O)R^b$, $-N(R^a)C(=O)OR^b$, $-N(R^a)C(=O)NR^aR^a$, $-N(R^a)C(=NR^a)NR^aR^a$, $-N(R^a)S(=O)_2R^b$, $-N(R^a)S(=O)_2NR^aR^a$, $-NR^aC_{2-6}alkylNR^aR^a$, $-NR^aC_{2-6}alkylOR^a$, $-C_{1-6}$alkyl, $-C_{2-6}$alkenyl, or $-C_{2-6}$alkynyl, wherein $-C_{1-6}$alkyl, - C_{2-6}alkenyl, or $-C_{2-6}$alkynyl are substituted by 0, 1, 2 or 3 substituents independently selected from C_{1-4}haloalkyl, halo, cyano, nitro, $-C(=O)R^b$, $-C(=O)OR^b$, $-C(=O)NR^aR^a$, $-C(=NR^a)NR^aR^a$, $-OR^a$, $-OC(=O)R^b$, $-OC(=O)NR^aR^a$, $-OC(=O)N(R^a)S(=O)_2R^b$, $-OC_{2-6}alkylNR^aR^a$, $-OC_{2-6}alkylOR^a$, $-SR^a$, $-S(=O)R^b$, $-S(=O)_2R^b$, $-S(=O)_2NR^aR^a$, $-S(=O)_2N(R^a)C(=O)R^b$, $-S(=O)_2N(R^a)C(=O)OR^b$, $-S(=O)_2N(R^a)C(=O)NR^aR^a$, $-NR^aR^a$, $-N(R^a)C(=O)R^b$, $-N(R^a)C(=O)OR^b$, $-N(R^a)C(=O)NR^aR^a$, $-N(R^a)C(=NR^a)NR^aR^a$, $-N(R^a)S(=O)_2R^b$, $-N(R^a)S(=O)_2NR^aR^a$, $-NR^aC_{2-6}alkylNR^aR^a$, $-NR^aC_{2-6}alkylOR^a$, $-N(R^a)(CR^aR^a)_n-Y$, $-(CR^aR^a)_nY$, or $-(CR^aR^a)_nOR^a$;

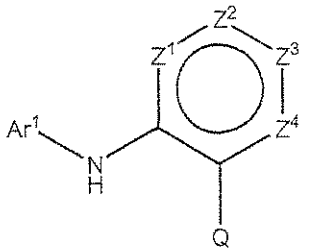
Y is a saturated, partially saturated or unsaturated 5-, 6- or 7-membered monocyclic ring or 6-, 7-, 8-, 9-, or 10- membered bicyclic ring containing 0, 1, 2, 3 or 4 heteroatoms

Z^{10} is N, NR, or CR, or Z^9 and Z^{10} can form a 5 or 6 membered ring when the two Rs are taken together with the carbon or nitrogen atoms to which they are attached, and the ring can contain from zero to three heteroatoms independently selected from O, N or S, and the ring can be unsubstituted or substituted with groups independently selected from C_{1-4}haloalkyl, halo, -CN, nitro, $-C(=O)NR^aR^a$, $-C(=O)R^b$, $-C(=O)OR^b$, $-C(=NR^a)NR^aR^a$, $-OR^a$, $-OC(=O)R^b$, $-OC(=O)NR^aR^a$, $-O-C_{1-6}alkylN(R^a)C(=O)OR^b$, $-OC(=O)N(R^a)S(=O)_2R^b$, $-OC_{2-6}alkylNR^aR^a$, $-OC_{2-6}alkylOR^a$, $-SR^a$, $-S(=O)R^b$, $-S(=O)_2R^b$, $-S(=O)_2NR^aR^a$, $-S(=O)_2N(R^a)C(=O)R^b$, $-S(=O)_2N(R^a)C(=O)OR^b$, $-S(=O)_2N(R^a)C(=O)NR^aR^a$, $-(CR^cR^c)_nNR^aR^a$, $-N(R^a)C(=O)R^b$, $-N(R^a)C(=O)OR^b$, $-N(R^a)C(=O)NR^aR^a$, $-N(R^a)C(=NR^a)NR^aR^a$, $-N(R^a)S(=O)_2R^b$, $-N(R^a)S(=O)_2NR^aR^a$, $-NR^aC_{2-6}alkylNR^aR^a$, $-NR^aC_{2-6}alkylOR^a$, $-(CR^cR^c)_nC_{4-8}$heterocycloalkyl, $-(CR^cR^c)_nC_{6-8}$aryl, $-(CR^cR^c)_nC_{5-8}$heteroaryl, $-(CR^cR^c)_nO(CR^cR^c)_nC_{6-8}$aryl, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_nC_{6-8}$aryl, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_nC_{5-8}$heteroaryl, $-(CR^cR^c)_nO(CR^cR^c)_nC_{5-8}$heteroaryl, $-C_{1-6}$alkyl, $-C_{2-6}$alkenyl, or $-C_{2-6}$alkynyl, wherein C_{1-6}alkyl, C_{2-6}alkenyl, C_{2-6}alkynyl, C_{4-8}heterocycloalkyl, C_{6-8}aryl or C_{5-8}heteroaryl are substituted by 0, 1, 2 or 3 substituents independently selected from C_{1-4}haloalkyl, halo, cyano, nitro, $-C(=O)R^b$, $-C(=O)OR^b$, $-C(=O)NR^aR^a$, $-C(=NR^a)NR^aR^a$, $-OR^a$, $-OC(=O)R^b$, $-OC(=O)NR^aR^a$, $-OC(=O)N(R^a)S(=O)_2R^b$, $-OC_{2-6}alkylNR^aR^a$, $-OC_{2-6}alkylOR^a$, $-SR^a$, $-S(=O)R^b$, $-S(=O)_2R^b$, $-S(=O)_2NR^aR^a$, $-S(=O)_2N(R^a)C(=O)R^b$, $-S(=O)_2N(R^a)C(=O)OR^b$, $-S(=O)_2N(R^a)C(=O)NR^aR^a$, $-NR^aR^a$, $-N(R^a)C(=O)R^b$, $-N(R^a)C(=O)OR^b$, $-N(R^a)C(=O)NR^aR^a$, $-N(R^a)C(=NR^a)NR^aR^a$, $-N(R^a)S(=O)_2R^b$, $-N(R^a)S(=O)_2NR^aR^a$, $-NR^aC_{2-6}alkylNR^aR^a$, $-NR^aC_{2-6}alkylOR^a$, $-N(R^a)(CR^aR^a)_n-Y$, $-(CR^aR^a)_nY$, or $-(CR^aR^a)_nOR^a$; and the group NR^aR^a, either alone or a part of a larger group, can be a 4 to 6 membered heterocyclic ring wherein the two R^as taken together with the nitrogen atom to which they are attached form a ring that can have from zero to one additional heteroatom selected from N, O or S, and the ring can be substituted or unsubstituted with from 1 to 3 substitutents independently selected from oxo, halo, -CN, nitro, $-C(=O)R^c$, $-C(=O)OR^c$, $-OR^c$, $-OC(=O)R^c$, $-SR^c$, $-S(=O)R^c$, $-S(=O)_2R^c$, $-S(=O)_2NR^cR^c$, $-NR^cR^c$, $-C_{1-6}$alkyl, $-C_{2-6}$alkenyl, or $-C_{2-6}$alkynyl.

[0012] In a second aspect ~~1a~~, the present invention refers to ~~provides~~ compounds of Formula I, or a pharmaceutically acceptable salt thereof,

$-S(=O)_2N(R^a)C(=O)OR^b$, $-S(=O)_2N(R^a)C(=O)NR^aR^a$, $-(CR^cR^c)_nNR^aR^a$, $-N(R^a)C(=O)R^b$, $-N(R^a)C(=O)OR^b$, $-N(R^a)C(=O)NR^aR^a$, $-N(R^a)C(=NR^a)NR^aR^a$, $-N(R^a)S(=O)_2R^b$, $-N(R^a)S(=O)_2NR^aR^a$, $-NR^aC_{2-6}alkylNR^aR^a$, $-NR^aC_{2-6}alkylOR^a$, $-(CR^cR^c)_nC_{4-8}heterocycloalkyl$, $-(CR^cR^c)_nC_{6-8}aryl$, $-(CR^cR^c)_nC_{5-8}heteroaryl$, $-(CR^cR^c)_nO(CR^cR^c)_nC_{6-8}aryl$, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_nC_{6-8}aryl$, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_nC_{5-8}heteroaryl$, $-(CR^cR^c)_nO(CR^cR^c)_nC_{5-8}heteroaryl$, $-C_{1-6}alkyl$, $-C_{2-6}alkenyl$, or $-C_{2-6}alkynyl$, wherein $C_{1-6}alkyl$, $C_{2-6}alkenyl$, $C_{2-6}alkynyl$, $C_{4-8}heterocycloalkyl$, $C_{6-8}aryl$ or $C_{5-8}heteroaryl$ are substituted by 0, 1, 2 or 3 substituents independently selected from $C_{1-4}haloalkyl$, halo, cyano, nitro, $-C(=O)R^b$, $-C(=O)OR^b$, $-C(=O)NR^aR^a$, $-C(=NR^a)NR^aR^a$, $-OR^a$, $-OC(=O)R^b$, $-OC(=O)NR^aR^a$, $-OC(=O)N(R^a)S(=O)_2R^b$, $-OC_{2-6}alkylNR^aR^a$, $-OC_{2-6}alkylOR^a$, $-SR^a$, $-S(=O)R^b$, $-S(=O)_2R^b$, $-S(=O)_2NR^aR^a$, $-S(=O)_2N(R^a)C(=O)R^b$, $-S(=O)_2N(R^a)C(=O)OR^b$, $-S(=O)_2N(R^a)C(=O)NR^aR^a$, $-NR^aR^a$, $-N(R^a)C(=O)R^b$, $-N(R^a)C(=O)OR^b$, $-N(R^a)C(=O)NR^aR^a$, $-N(R^a)C(=NR^a)NR^aR^a$, $-N(R^a)S(=O)_2R^b$, $-N(R^a)S(=O)_2NR^aR^a$, $-NR^aC_{2-6}alkylNR^aR^a$, $-NR^aC_{2-6}alkylOR^a$, $-N(R^a)(CR^aR^a)_n-Y$, $-(CR^aR^a)_nY$, or $-(CR^aR^a)_nOR^a$; and the group NR^aR^a, either alone or a part of a larger group, can be a 4 to 6 membered heterocyclic ring wherein the two R^as taken together with the nitrogen atom to which they are attached form a ring that can have from zero to one additional heteroatom selected from N, O or S, and the ring can be substituted or unsubstituted with from 1 to 3 substitutents independently selected from oxo, halo, -CN, nitro, $-C(=O)R^c$, $-C(=O)OR^c$, $-OR^c$, $-OC(=O)R^c$, $-SR^c$, $-S(=O)R^c$, $-S(=O)_2R^c$, $-S(=O)_2NR^cR^c$, $-NR^cR^c$, $-C_{1-6}alkyl$, $-C_{2-6}alkenyl$, or $-C_{2-6}alkynyl$.

[0013] In ~~one example~~aspect 2, the present invention describes~~provides~~ compounds of Formula I, or a pharmaceutically acceptable salt thereof,

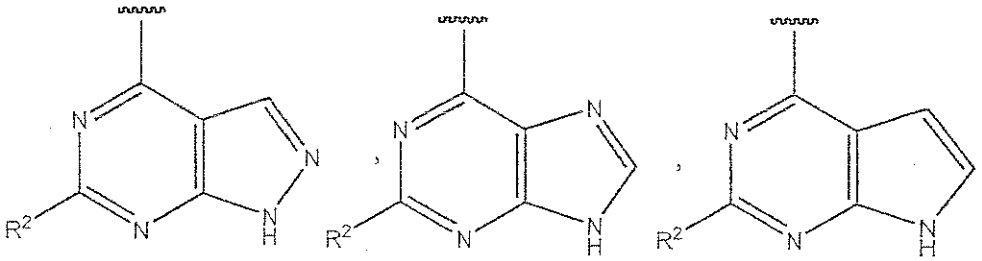


I

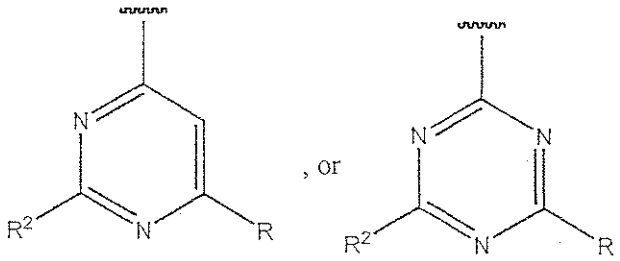
wherein Ar^1 is a 5 to 10 membered monocyclic or bicyclic ring that can contain from zero to four heteroatoms independently selected from O, N or S, and which ring can be unsubstituted or substituted with groups independently selected from $C_{1-4}haloalkyl$, halo, -CN, nitro, $-C(=O)NR^aR^a$, $-C(=O)R^b$, $-C(=O)OR^b$, $-C(=NR^a)NR^aR^a$, $-OR^a$, $-OC(=O)R^b$,

or S, and the ring can be substituted or unsubstituted with from 1 to 3 substitutents independently selected from oxo, halo, -CN, nitro, -C(=O)R^c, -C(=O)OR^c, -OR^c, -OC(=O)R^c, -SR^c, -S(=O)R^c, -S(=O)$_2R^c$, -S(=O)$_2$N$R^c R^c$, -N$R^c R^c$, -C_{1-6}alkyl, -C_{2-6}alkenyl, or -C_{2-6}alkynyl.

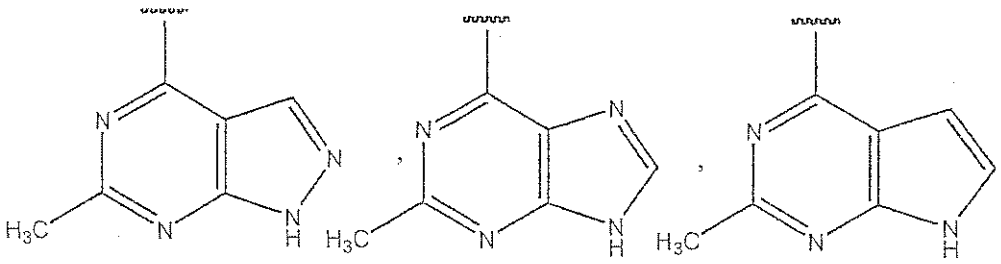
[0014] In a third aspect ~~3~~, the present invention refers to ~~provides~~ compounds as previously described ~~in accordance with aspect 1 or 2~~, or a pharmaceutically acceptable salt thereof, wherein Q is



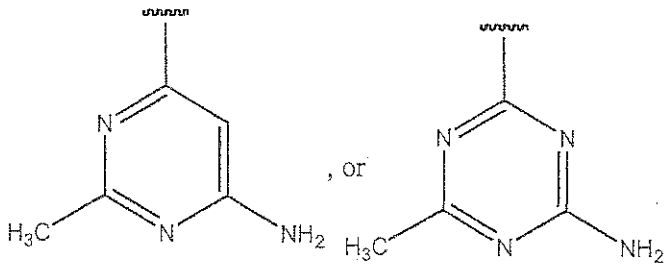
, or



[0015] In a 4th aspect ~~4~~, the present invention refers to ~~provides~~ compounds as previously described ~~in accordance with aspect 1 or 2~~, or a pharmaceutically acceptable salt thereof, wherein Q is



, or



[0016] In a 5th aspect ~~5~~, the present invention ~~provides~~refers to compounds ~~in accordance with any one of the aspects 1 to 4~~ as previously described, or a pharmaceutically acceptable salt thereof, wherein Z^1 is N; Z^2, Z^3 and Z^4 are CR.

[0017] In a 6th aspect ~~6~~, the present invention ~~provides~~refers to compounds, ~~in accordance with any one of the aspects 1 to 4,~~ as previously described, or a pharmaceutically acceptable salt thereof, wherein Z^1 is N; and Z^2, Z^3 and Z^4 are CH.

[0018] In a 7th aspect ~~7~~, the present invention ~~provides~~refers to compounds ~~in accordance with any one of aspects 1 to 4~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Z^1, Z^2 and Z^4 are CR; and Z^3 is N.

[0019] In an 8th aspect ~~8~~, the present invention ~~provides~~ refers to compounds ~~in accordance with any one of aspects 1 to 4~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Z^1 is N; Z^2 and Z^3 are CR; and Z^4 is N.

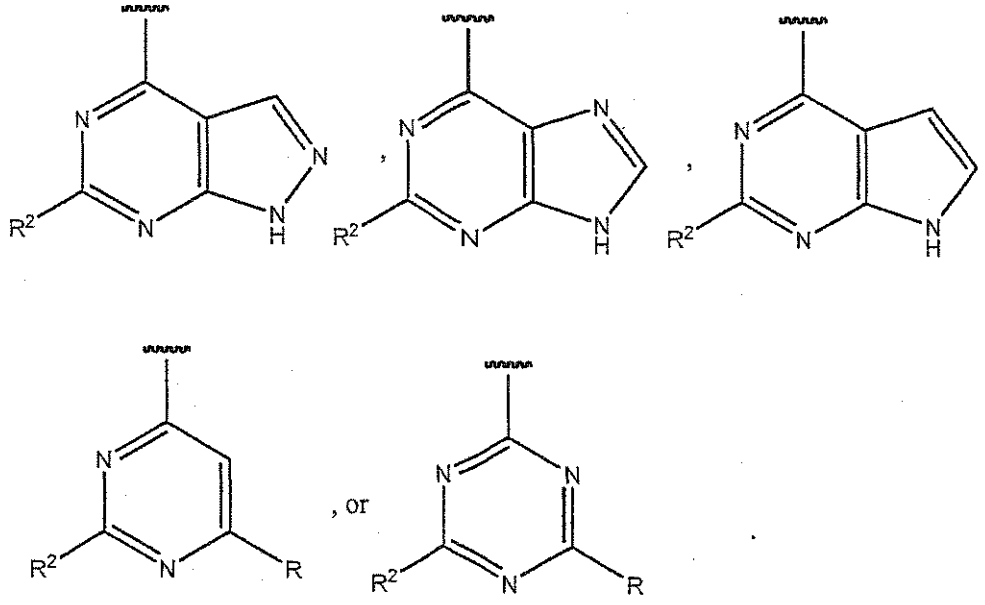
[0020] In a 9th aspect ~~9~~, the present invention ~~provides~~ refers to compounds ~~in accordance with any one of aspects 1 to 4~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Z^1 is N; Z^2 and Z^4 are CH; and Z^3 is CR.

[0021] In a 10th aspect ~~10~~, the present invention ~~provides~~refers to compounds ~~in accordance with any one of aspects 1 to 4~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Z^1 is N; Z^2 and Z^4 are CH; Z^3 is CR; and R is selected from hydrogen, C_{1-6}alkyl, C_{1-6}substituted alkyl, halo, C_{1-4}haloalkyl, $-(CR^cR^c)_nC_{4-8}$heterocycloalkyl, $-(CR^cR^c)_nO(CR^cR^c)_nC_{6-8}$aryl, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_nC_{6-8}$aryl, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_nC_{5-8}$heteroaryl, $-(CR^cR^c)_n$substitutedC_{4-8}heterocycloalkyl, $-(CR^cR^c)_nO(CR^cR^c)_n$substitutedC_{6-8}aryl, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_n$substituted$C_{6-8}$aryl, $-(CR^cR^c)_nN(R^a)(CR^cR^c)_n$substituted$C_{5-8}$heteroaryl, C_{2-6}alkenyl, or $-(CR^cR^c)_nNR^aR^a$. In a particular example of aspect 10, Z^3 is CR and R is C_{1-6}alkyl substituted with $-OR^a$.

[0022] In a 11th aspect ~~11~~, the present invention ~~provides~~refers to compounds ~~in accordance with any one of aspects 1 to 10~~as previously described, or a pharmaceutically acceptable salt thereof, where Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl or indazolyl, which can be unsubstituted or substituted.

[0023] In a 12th aspect ~~12~~, the present invention ~~provides~~refers to compounds ~~in accordance with any one of aspects 1 to 10~~ as previously described, or pharmaceutically acceptable salt thereof, where Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl or indazolyl, which can be unsubstituted or substituted with groups selected from $-OR^a$, halo, $-NR^aR^a$, C_{1-4}haloalkyl, $-N(R^a)C(=O)R^b$, or $-N(R^a)C(=O)NR^aR^a$.

[0024] In a 13th aspect ~~13~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspect 1 or 2~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is

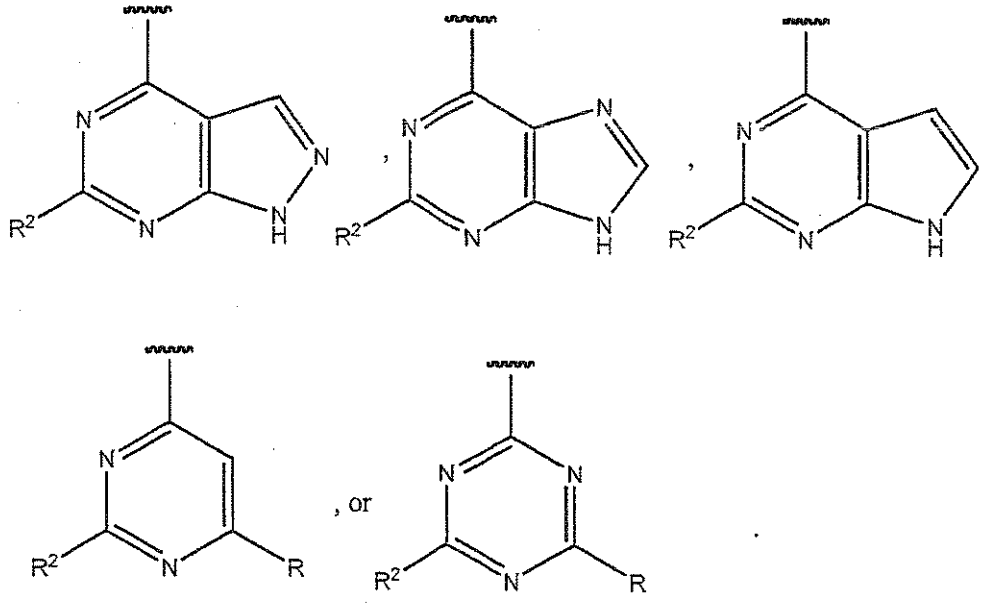


;

Z^1 is N; and Z^2, Z^3 and Z^4 are CR; and

Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl or indazolyl, which can be unsubstituted or substituted.

[0025] In a 14th aspect ~~14~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 or 2~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is



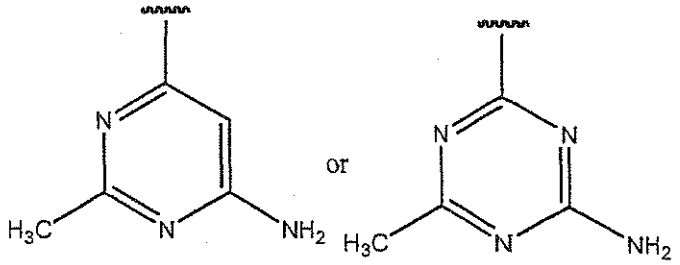
;

Z^1 is N; and Z^2, Z^3 and Z^4 are CH; and

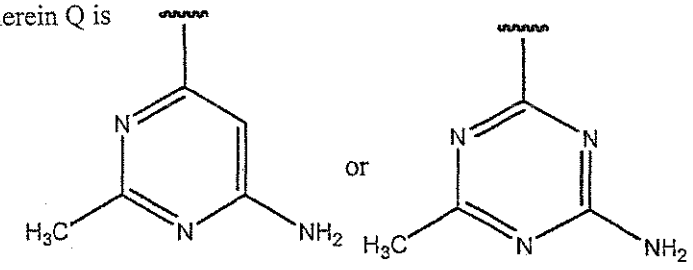
Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl or indazolyl, which can be unsubstituted or substituted.

[0026] In a 15th aspect ~~15~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1, 2 or 5 to 12~~as previously described, or a pharmaceutically acceptable salt thereof, wherein R^2 is methyl.

[0027] In a 16th aspect ~~16~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1, 2 or 5 to 12~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is



[0028] In a 17th aspect ~~17~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 or 2~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is

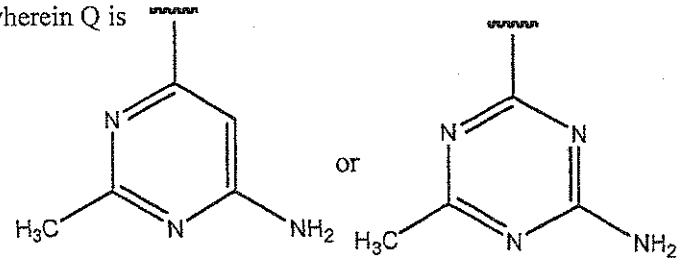


;

Z^1 is N; and Z^2, Z^3 and Z^4 are CR; and

Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl or indazolyl, which can be unsubstituted or substituted.

[0029] In a 18th aspect ~~18~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 or 2~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is



;

Z^1 is N;

Z^2 and Z^4 are CH;

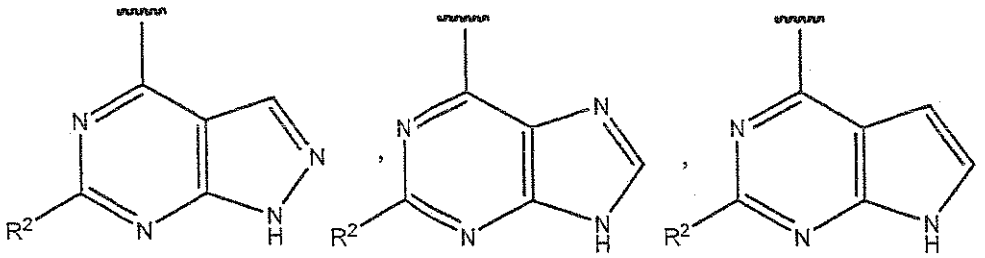
Ar^1 is substituted pyridyl; and

Z^3 is CR.

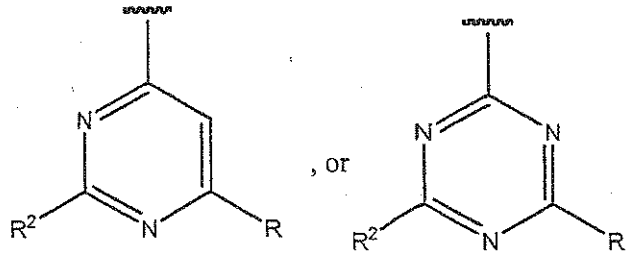
[0030] In a 19th aspect ~~19~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 to 10~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl, indazolyl, benzothiazolyl, quinolinyl, isoquinolinyl, benzimidazolyl, or benzothiadiazolyl, which can be unsubstituted or substituted.

[0031] In a 20th aspect ~~20~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 to 10~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl, indazolyl, benzothiazolyl, quinolinyl, isoquinolinyl, benzimidazolyl, or benzothiadiazolyl, which can be unsubstituted or substituted with groups selected from $-OR^a$, halo, $-NR^aR^a$, C_{1-4}haloalkyl, $-N(R^a)C(=O)R^b$, $-N(R^a)S(=O)_2R^b$, $-N(R^a)S(=O)_2NR^aR^a$ or $-N(R^a)C(=O)NR^aR^a$.

[0032] In a 21st aspect ~~21~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 or 2~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is



, or

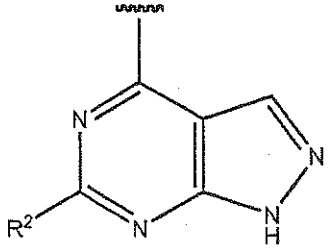
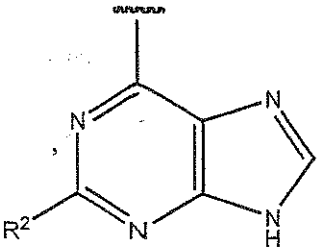
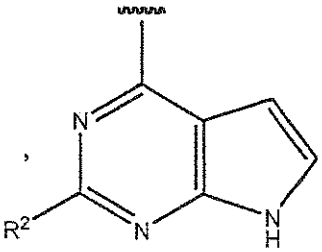
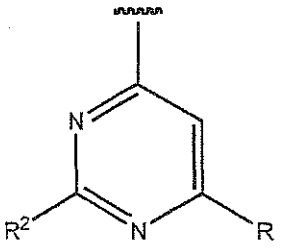
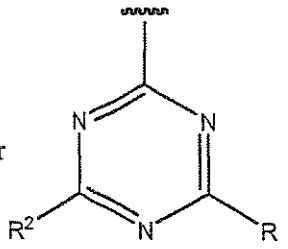


;

Z^1 is N; and Z^2, Z^3 and Z^4 are CR; and

Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl, indazolyl, benzothiazolyl, quinolinyl, isoquinolinyl, benzimidazolyl, or benzothiadiazolyl.

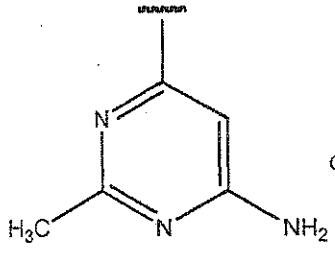
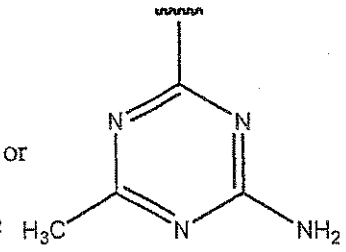
[0033] In a 22nd aspect ~~22~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 or 2~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is





, or

;

$Z^1$is N; and Z^2, Z^3 and Z^4 are CH; and

Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl, indazolyl, benzothiazolyl, quinolinyl, isoquinolinyl, benzimidazolyl, or benzothiadiazolyl,.

[0034] In a 23rd aspect ~~23~~, the present invention ~~provides~~refers to compounds ~~in accordance with aspects 1 or 2~~as previously described, or a pharmaceutically acceptable salt thereof, wherein Q is


or

;

$Z^1$is N; and Z^2, Z^3 and Z^4 are CR; and

Ar^1 is selected from pyrazolyl, indolyl, phenyl, pyridyl, pyrimidinyl, benzoxazolyl, indazolyl, benzothiazolyl, quinolinyl, isoquinolinyl, benzimidazolyl, or benzothiadiazolyl, which can be unsubstituted or substituted.

[0035] In a 24th aspect ~~24~~, the present invention ~~provides~~refers to compounds, or a pharmaceutically acceptable salt thereof, selected from:

N-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)pyridin-2-yl)-1H-indol-4-amine;

3-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)pyridin-2-ylamino)phenol;

N-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)pyridin-2-yl)-1H-indazol-4-amine;

6-(2-((5-fluoro-6-methoxy-3-pyridinyl)amino)-5-((1R)-1-(4-morpholinyl)ethyl)-3-pyridinyl)-2-methyl-4-pyrimidinamine;

4-(5-(1-amino-1-methylethyl)-2-((6-methoxy-3-pyridinyl)amino)-3-pyridinyl)-6-methyl-1,3,5-triazin-2-amine;

4-(5-(1-amino-1-methylethyl)-2-((5-fluoro-6-methoxy-3-pyridinyl)amino)-3-pyridinyl)-6-methyl-1,3,5-triazin-2-amine;

4-(2-((6-methoxy-3-pyridinyl)amino)-5-(1-methyl-1-(4-(methylsulfonyl)-1-piperazinyl)ethyl)-3-pyridinyl)-6-methyl-1,3,5-triazin-2-amine;

4-(2-((5-fluoro-6-methoxy-3-pyridinyl)amino)-5-(1-methyl-1-(4-(methylsulfonyl)-1-piperazinyl)ethyl)-3-pyridinyl)-6-methyl-1,3,5-triazin-2-amine;

4-(2-((5-fluoro-6-methoxy-3-pyridinyl)amino)-5-(1-methyl-1-(4-morpholinyl)ethyl)-3-pyridinyl)-6-methyl-1,3,5-triazin-2-amine;

4-(2-((6-methoxy-3-pyridinyl)amino)-5-(1-(4-(methylsulfonyl)-1-piperazinyl)cyclopropyl)-3-pyridinyl)-6-methyl-1,3,5-triazin-2-amine;

4-(2-(6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine;

(S)-4-(2-(6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine;

(R)-4-(2-(6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine;

4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine;(s)-4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine;

(R)-4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine;

(S)-4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-((2-methyl-4-(methylsulfonyl)piperazin-1-yl)methyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine; or

4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-((R)-1-((S)-2-methyl-4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine.

[0037] In a 26th aspect ~~26~~, the present invention ~~provides~~refers to compounds, or a pharmaceutically acceptable salt thereof, selected from:

6-(3-(5-fluoro-6-methoxypyridin-3-ylamino)-6-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyrazin-2-yl)-2-methylpyrimidin-4-amine;

N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)-2-chloropyridin-3-yl)methanesulfonamide;

N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)-2-chloropyridin-3-yl)-N,N-dimethylaminosulfamide;

(R)-N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)-2-chloropyridin-3-yl)methanesulfonamide;

(S)-N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)-2-chloropyridin-3-yl)methanesulfonamide;

(R)-N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)-2-chloropyridin-3-yl)-N,N-dimethylaminosulfamide;

(S)-N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)-2-chloropyridin-3-yl)-N,N-dimethylaminosulfamide;

N-(5-(3-(6-amino-2-methylpyrimidin-4-yl)pyridin-2-ylamino)-2-chloropyridin-3-yl)-N,N-dimethylaminosulfamide;

N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-(2-methoxyethoxy)pyridin-2-ylamino)-2-methylpyridin-3-yl)methanesulfonamide;

N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)pyridin-2-ylamino)-2-methylpyridin-3-yl)methanesulfonamide;

N-(5-(3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-chloropyridin-2-ylamino)-2-methylpyridin-3-yl)methanesulfonamide;

N-(2-chloro-5-(3-(6-amino-2-methylpyrimidin-4-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)pyridin-3-yl)-N,N-dimethylaminosulfamide;

N-(5-(3-(6-amino-2-methylpyrimidin-4-yl)-5-vinylpyridin-2-ylamino)-2-chloropyridin-3-yl)methanesulfonamide;

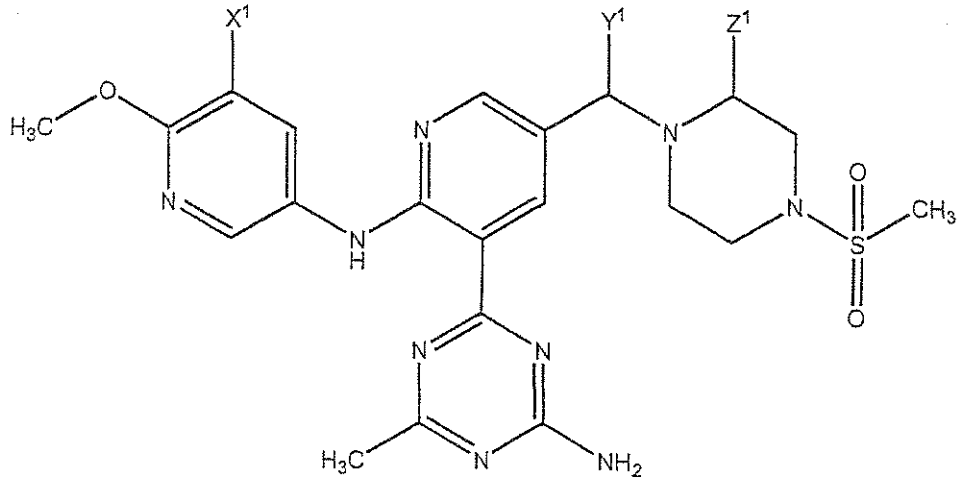
(R)-N-(2-chloro-5-(3-(6-amino-2-methylpyrimidin-4-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)pyridin-3-yl)-N,N-dimethylaminosulfamide;

(S)-N-(2-chloro-5-(3-(6-amino-2-methylpyrimidin-4-yl)-5-(1-morpholinoethyl)pyridin-2-ylamino)pyridin-3-yl)-N,N-dimethylaminosulfamide;

4-(5-((1,1-dioxidohexahydro-5h-isothiazolo[2,3-a]pyrazin-5-yl)methyl)-2-((5-fluoro-6-methoxy-3-pyridinyl)amino)-3-pyridinyl)-6-methyl-1,3,5-triazin-2-amine; or

N'-(5-((3-(4-amino-6-methyl-1,3,5-triazin-2-yl)-5-chloro-2-pyridinyl)amino)-2-chloro-3-pyridinyl)-n,n-dimethylsulfamide.

[0038] In a 27th aspect ~~27~~, the present invention ~~provides~~refers to compounds of Formula II, or a pharmaceutically acceptable salt thereof,



II

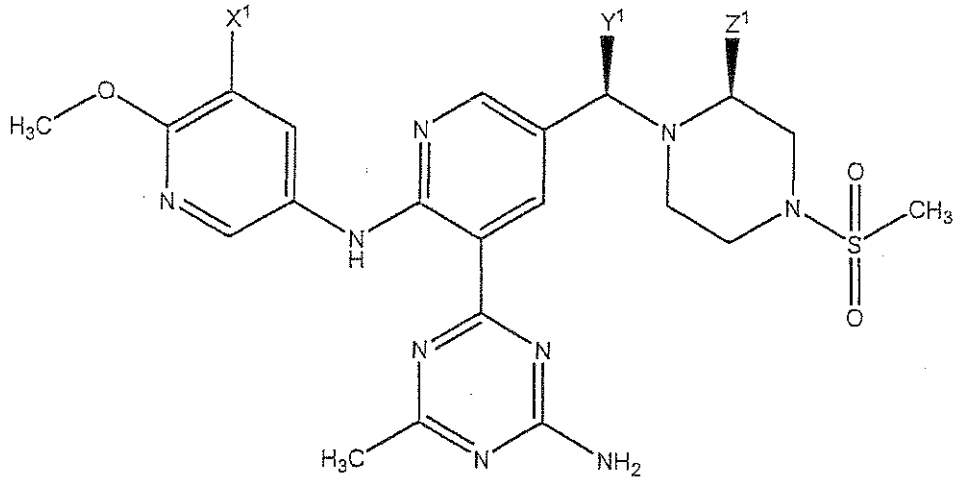
wherein X^1 is fluorine or hydrogen;

Y^1 is hydrogen or methyl; and

Z^1 is hydrogen or methyl.

[0039] In a 28th aspect ~~28~~, the present invention ~~provides~~refers to compounds ~~in accordance with~~as previously defined ~~aspect 27~~, or a pharmaceutically acceptable salt thereof, wherein X1 is fluorine; Y1 is hydrogen or methyl; and Z1 is hydrogen or methyl.

[0040] In a 29th aspect ~~29~~, the present invention ~~provides~~refers to compounds of Formula IIa, or a pharmaceutically acceptable salt thereof,



IIa

wherein X^1 is fluorine or hydrogen;

Y^1 is hydrogen or methyl; and

Z^1 is hydrogen or methyl.

[0041] In a 30th aspect ~~30~~, the present invention ~~provides~~refers to compounds ~~in accordance with~~as previously described ~~aspect 29~~, or a pharmaceutically acceptable salt thereof, wherein X^1 is fluorine; Y^1 is hydrogen or methyl; and Z^1 is hydrogen or methyl.

[0041a] In a 31st aspect, the present invention refers to the compound 4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4- (methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl) -6-methyl-1,3,5-triazin-2-amine, or a pharmaceutically acceptable salt thereof.

[0041b] In a 32nd aspect, the present invention refers to the compound (S)-4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4- (methylsulfonyl)piperazin-1-yl)ethyl) pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine, or a pharmaceutically acceptable salt thereof.

[0041c] In a 33rd aspect, the present invention refers to the compound (R)-4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4- (methylsulfonyl)piperazin-1-yl)ethyl) pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine, or a pharmaceutically acceptable salt thereof.

[0042] In a 34th aspect ~~31~~, the present invention ~~provides~~refers to pharmaceutical compositions comprising: a compound ~~in accordance with any one of aspects 1 to 30~~as previously described, or a pharmaceutically acceptable salt thereof; and a pharmaceutically acceptable excipient.

[0043] In ~~aspect 32~~one example, the present invention ~~provides~~describes methods of treating melanoma, ovarian cancer, cervical cancer, breast cancer, colon cancer, rectal cancer, endometrial cancer, pancreatic cancer, lung cancer, stomach cancer, glioblastoma, liver cancer, prostate cancer, acute lyelogeous leukemia, chronic lyelogenous leukemia, or thyroid cancer, the method comprising administering to a patient in need thereof a therapeutically effective amount of a compound ~~of any one of aspects 1 to 30~~as previously described, or a pharmaceutically acceptable salt thereof.

DETAILED DESCRIPTION OF THE INVENTION

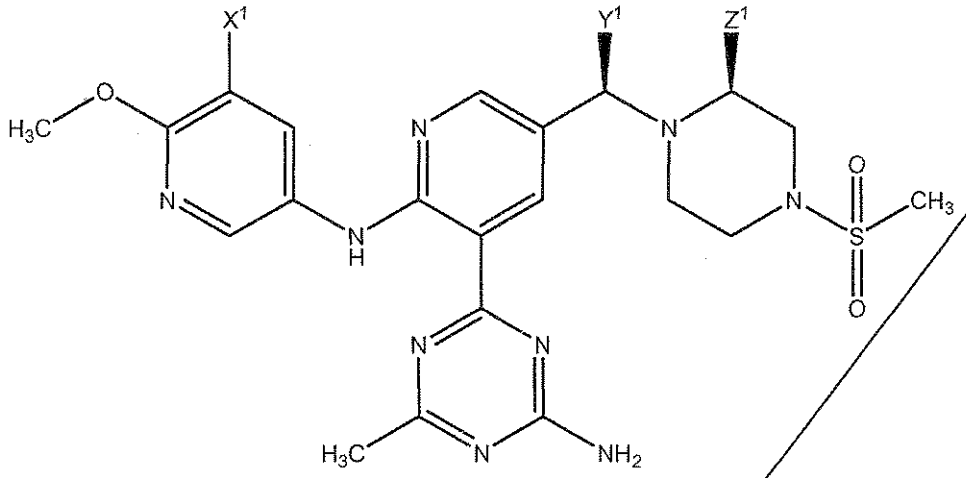
[0044] The present invention provides compounds of Formula I, as defined above, or the pharmaceutically acceptable salts thereof. The present invention also provides pharmaceutical compositions comprising a compound of Formula I, or a pharmaceutically acceptable salt thereof, and methods of treating diseases or conditions, such as cancer, using a compound of Formula I, or a pharmaceutically acceptable salt thereof.

[0045] The term "alkyl" means a straight or branched chain hydrocarbon. Representative examples of alkyl groups include methyl, ethyl, propyl, isopropyl, butyl, isobutyl, tert-butyl, sec-butyl, pentyl and hexyl. Typical alkyl groups are alkyl groups having from 1 to 8 carbon atoms, which groups are commonly represented as C_{1-8}alkyl.

[0046] The term "alkoxy" means an alkyl group bonded to an oxygen atom. Representative examples of alkoxy groups include methoxy, ethoxy, tert-butoxy, propoxy and isobutoxy. Common alkoxy groups are C_{1-8}alkoxy.

[0047] The term "halogen" or "halo" means chlorine, fluorine, bromine or iodine.

[0048] The term "alkenyl" means a branched or straight chain hydrocarbon having one or more carbon-carbon double bonds. Representative examples alkenyl groups include ethenyl, propenyl, allyl, butenyl and 4-methylbutenyl. Common alkenyl groups are C_{2-8}alkenyl.



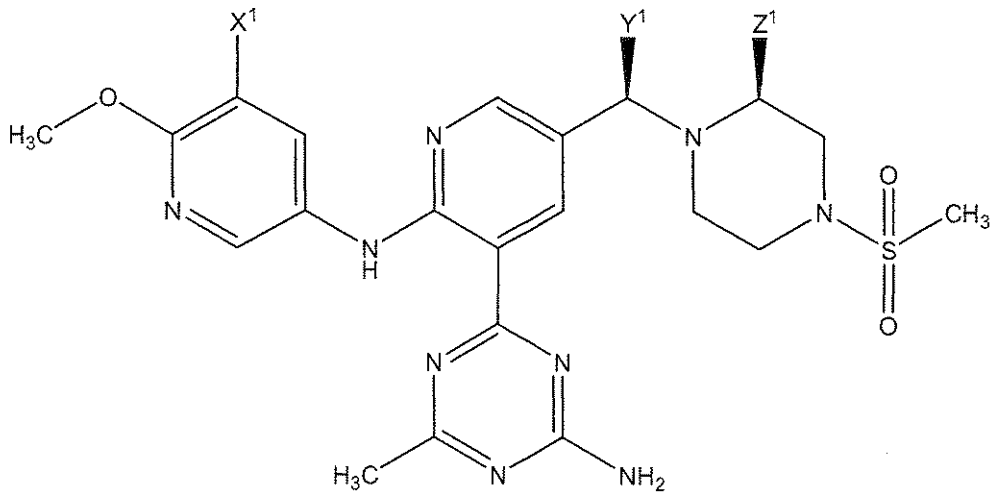
IIa

wherein X^1 is fluorine or hydrogen;
Y^1 is hydrogen or methyl; and
Z^1 is hydrogen or methyl.

30. A compound in accordance with claim 29, or a pharmaceutically acceptable salt thereof, wherein X^1 is fluorine; Y^1 is hydrogen or methyl; and Z^1 is hydrogen or methyl.

31. A pharmaceutical composition comprising: a compound in accordance with any one of claims 1 to 30, or a pharmaceutically acceptable salt thereof; and a pharmaceutically acceptable excipient.

32. A method of treating melanoma, ovarian cancer, cervical cancer, breast cancer, colon cancer, rectal cancer, endometrial cancer, pancreatic cancer, lung cancer, stomach cancer, glioblastoma, liver cancer, prostate cancer, acute lyelogeous leukemia, chronic lyelogenous leukemia, or thyroid cancer, the method comprising administering to a patient in need thereof a therapeutically effective amount of a compound of any one of claims 1 to 30, or a pharmaceutically acceptable salt thereof.



IIa

wherein X^1 is fluorine or hydrogen;
Y^1 is hydrogen or methyl; and
Z^1 is hydrogen or methyl.

30. A compound in accordance with claim 29, or a pharmaceutically acceptable salt thereof, wherein X^1 is fluorine; Y^1 is hydrogen or methyl; and Z^1 is hydrogen or methyl.

31. The compound 4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine, or a pharmaceutically acceptable salt thereof.

32. The compound (S)-4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine, or a pharmaceutically acceptable salt thereof.

33. The compound (R)-4-(2-(5-fluoro-6-methoxypyridin-3-ylamino)-5-(1-(4-(methylsulfonyl)piperazin-1-yl)ethyl)pyridin-3-yl)-6-methyl-1,3,5-triazin-2-amine, or a pharmaceutically acceptable salt thereof.

34. A pharmaceutical composition comprising: a compound in accordance with any one of claims 1 to 33, or a pharmaceutically acceptable salt thereof; and a pharmaceutically acceptable excipient.