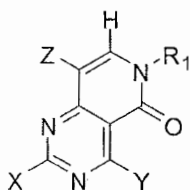


CLAIMS

What is claimed is:

1. A compound of Formula (I):



Formula (I)

wherein: (a) when R¹ is H and X is NR²R³ or NR⁴R⁵, then

Y is NHR⁶ and

Z is selected from H, halogen, C₁-C₃ alkyl, C₂-C₄ alkynyl, aryl, heteroaryl, or C₃-C₈ cycloalkyl, wherein the alkyl, cycloalkyl, aryl, alkynyl or heteroaryl is optionally substituted with halo, alkyl, or cyano; wherein:

R² and R³, taken together with the nitrogen atom to which they are bonded form:

- i) a 3-8 membered saturated or partially saturated monocyclic group having no heteroatom other than the nitrogen atom to which R² and R³ are bonded, wherein said 3-8 membered saturated or partially saturated monocyclic group is independently substituted at one or more carbon atoms with 1-2 R⁷ and optionally substituted at one or more carbon atoms with 0-4 R⁸, wherein R⁷ is hydroxy, heterocycloalkyl, or NR⁹R⁹ and R⁸ is hydroxy(C₁-C₆)alkyl, aryl, COOR⁹, (CH₂)_nNR⁹R⁹, or (CH₂)_nNR⁹R¹⁰, wherein each n is independently 1, 2, or 3 and the aryl is optionally substituted with halo; or
- ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;

each R^9 is independently selected from H, C_1 - C_6 alkyl, C_3 - C_6 alkynyl, C_2 - C_6 alkyl cyano, C_2 - C_6 alkyl sulfone, C_3 - C_6 cycloalkyl sulfone, C_2 - C_6 sulfonamide, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, aryl, aryl(C_1 - C_6) alkyl, or heteroaryl, wherein the alkyl, alkynyl, alkylcyano, alkylsulfone, sulfonamide, cycloalkyl, heterocycloalkyl, aryl, arylalkyl, or heteroaryl is optionally substituted with R^{25} ;

R^{10} is $C(O)R^9$, $COOR^9$, $C(O)NR^9R^9$, or $S(O)_nR^9$, wherein n is 1 or 2;

R^4 is selected from H, C_1 - C_6 alkyl, or hydroxy(C_1 - C_6)alkyl;

R^5 is aryl(C_1 - C_3)alkyl, wherein the aryl group is independently substituted at one or more carbon atoms with 1-3 R^{11} , wherein R^{11} is independently selected from OR^9 , NR^9R^9 , NR^9COR^9 , or $NR^9S(O)_nR^9$, wherein n is 1 or 2;

R^6 is selected from C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, or heteroaryl, wherein the heterocycloalkyl, aryl, or heteroaryl is optionally substituted, wherein the heterocycloalkyl, aryl, or heteroaryl of R^6 is optionally substituted with an aryl selected from the group consisting of:

- i) a 5-6 membered monocyclic aryl group;
- ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;
- iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone; and
- iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide; or

the heterocycloalkyl, aryl, or heteroaryl of R^6 is optionally substituted at one or more carbon atoms with R^{12} , wherein each R^{12} is independently selected from C_1 - C_6 alkyl, CF_3 , OCF_3 , $S(O)_n(C_1$ - C_4)alkyl, halo(C_1 -

C₄)alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl (C₁-C₆)alkyl, heteroaryl, halo, haloalkyl, SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, NO₂, CN, C(O)R¹³, C(O)C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each n is independently 1 or 2 and the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵,

wherein the aryl and heteroaryl of R¹² is independently selected from:

- i) a 5-6 membered monocyclic aryl group;
- ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone;
- iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently nitrogen, oxygen, sulfur, sulfoxide or sulfone; or
- iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide;

each R¹³ is independently selected from H, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, C₂-C₆ alkyl cyano, C₂-C₆ alkyl sulfone, C₂-C₆ sulfonamide, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, haloalkyl or heteroaryl, wherein the alkyl, alkenyl, alkynyl, alkyl cyano, alkyl sulfone, alkyl sulfonamide, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵;

R¹⁴ is C(O)R¹³, COOR¹³, C(O)NR¹³R¹³, SO₂NR¹³R¹³, or S(O)_nR¹³, wherein n is 1 or 2;

R¹⁵ and R¹⁶, taken together with the nitrogen atom to which they are bonded, form:

- i) a 3-8 membered saturated or partially saturated monocyclic group, wherein the 3-8 membered saturated or partially saturated monocyclic group is optionally substituted with R^{25} ;
- ii) an 8-12 membered saturated or partially saturated bicyclic group, wherein the 8-12 membered saturated or partially saturated bicyclic group is optionally substituted with R^{25} ;
- iii) a 3-8 membered saturated or partially saturated monocyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone or sulfoxide, wherein the 3-8 membered saturated or partially saturated monocyclic group having 1-2 heteroatoms is optionally substituted with R^{13} or R^{14} ; or
- iv) a 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, sulfoxide, wherein the 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms is optionally substituted with R^{13} or R^{14} ;

(b) when R^1 is H and Y is NHR^{17} or R^{17} , then

X is OR^{18} , NHR^{18} , $NR^{15}R^{16}$, $NR^{15}R^{19}$, or $NR^{19}R^{20}$; and

Z is H, halogen, C_1 - C_3 alkyl, C_2 - C_4 alkynyl, aryl, heteroaryl, or C_3 - C_8 cycloalkyl, wherein the alkyl, alkynyl, cycloalkyl, aryl, or heteroaryl is optionally substituted with halo, alkyl, or cyano, wherein:

R^{17} is selected from aryl(C_1 - C_6)alkyl, aryl, or heteroaryl, wherein the aryl, or the heteroaryl is substituted at one or more carbon atoms with at least one R^{21} and 0-2 R^{22} and the aryl group of said aryl(C_1 - C_6)alkyl is optionally substituted with halo;

R^{21} is independently selected from OH, CF_3 , OCF_3 , O-aryl, or $NR^{15}R^{16}$;

R^{22} is independently H, C_1 - C_6 alkyl, CF_3 , OCF_3 , $S(O)_n(C_1$ - C_4)alkyl, halo(C_1 - C_4)alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_8 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, heteroaryl, halo, SR^{13} , OR^{13} , $OC(O)R^{13}$, $NR^{13}R^{13}$, $NR^{13}R^{14}$, $COOR^{13}$, NO_2 , CN, $C(O)R^{13}$, $C(O)C(O)R^{13}$,

$C(O)NR^{13}R^{13}$, $S(O)_nR^{13}$, $S(O)_nNR^{13}R^{13}$, $NR^{13}C(O)NR^{13}R^{13}$, $NR^{13}C(O)R^{13}$, $NR^{13}(COOR^{13})$, $NR^{13}S(O)_nR^{13}$, or $NR^{15}R^{16}$, wherein each n is independently 1 or 2 and wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R^{25} ;

R^{18} is selected from C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, hydroxy(C_2 - C_6)alkyl, amino(C_2 - C_6)alkyl, haloalkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R^{25} ;

each R^{19} is independently selected from C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, hydroxy(C_2 - C_6)alkyl, amino(C_2 - C_6)alkyl, C_2 - C_6 alkyl cyano, C_2 - C_6 alkyl sulfone, C_2 - C_6 sulfonamide, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, haloalkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, alkyl cyano, alkyl sulfone, sulfonamide, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R^{25} ;

R^{20} is $C(O)R^{19}COOR^{19}$, $C(O)NR^{19}R^{19}$ or $S(O)_nR^{19}$, wherein n is 1 or 2;

each R^{25} is independently selected from hydroxy, hydroxy(C_1 - C_6)alkyl, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl(C_1 - C_6)alkyl, aryl, halo, haloalkyl, oxo, oxime, CF_3 , SR^{13} , OCF_3 , OR^{13} , $OC(O)CH_2R^{13}$, $NR^{13}R^{13}$, $NR^{13}R^{14}$, $NHC(O)R^{13}$, $(CH_2)_nNR^{13}R^{13}$, $COOR^{13}$, CN , $C(O)R^{13}$, $C(O)CF_3$, $CONR^{15}R^{16}$, $CONH_2$, $S(O)_nR^{13}$, $S(O)_nNR^{13}R^{13}$, or $NR^{15}R^{16}$, wherein each n is independently 1 or 2 and the heterocycloalkyl is optionally substituted with C_1 - C_3 alkyl; and

(c) when R^1 is CH_3 , then
 X is NH_2 or NHR^6 ,
 Y is NHR^6 or R^6 , and

Z is H, halogen, C₁-C₃ alkyl, C₂-C₄ alkynyl, aryl, heteroaryl, or C₃-C₈ cycloalkyl, wherein the alkyl, cycloalkyl, aryl, alkynyl, or heteroaryl is optionally substituted with halo, alkyl, or cyano, or

a pharmaceutically acceptable salt thereof.

2. The compound of Claim 1, wherein R¹ is H and X is NR²R³.
3. The compound of Claim 1, wherein R¹ is H and X is NR⁴R⁵.
4. The compound of Claim 2, wherein NR²R³ is a 3-8 membered saturated or partially saturated monocyclic group having no heteroatom other than the nitrogen atom to which R² and R³ are bonded, wherein said 3-8 membered saturated or partially saturated monocyclic group is independently substituted at one or more carbon atoms with 1-2 R⁷ and optionally substituted at one or more carbon atoms with 0-4 R⁸, wherein R⁷ is hydroxy, heterocycloalkyl, or NR⁹R⁹ and R⁸ is hydroxy(C₁-C₆)alkyl, aryl, COOR⁹, (CH₂)_nNR⁹R⁹, or (CH₂)_nNR⁹R¹⁰, wherein each n is independently 1, 2, or 3 and the aryl is optionally substituted with halo.
5. The compound of Claim 2, wherein NR²R³ is selected from an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone.
6. The compound of Claim 4, wherein the 3-8 membered saturated or partially saturated monocyclic group is substituted with hydroxy or amine.
7. The compound of Claim 6, wherein the 3-8 membered saturated or partially saturated monocyclic group is azetidine, piperidine or pyrrolidine, wherein the azetidine, piperidine or pyrrolidine is independently substituted with 1-3 hydroxy or amino group and optionally and independently substituted with hydroxymethyl at the one or more carbon atoms.
8. The compound of Claim 3, wherein R⁴ is selected from H, C₁-C₆ alkyl, or hydroxy(C₁-C₆)alkyl and R⁵ is aryl(C₁-C₃)alkyl, wherein the aryl group of aryl(C₁-C₃)alkyl of R⁵ is independently substituted at the one or more carbon atoms with 1-3 R¹¹, wherein R¹¹ is independently selected from OR⁹, NR⁹R⁹, NR⁹COR⁹, or NR⁹S(O)_nR⁹, wherein n is 1 or 2.

9. The compound of Claim 4, wherein R^9 is independently selected from H, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_2 - C_6 alkyl cyano, C_2 - C_6 alkyl sulfone, C_3 - C_6 alkyl sulfone, C_3 - C_6 cycloalkyl sulfone, C_2 - C_6 sulfonamide, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, haloalkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, alkyl cyano, alkyl sulfone, sulfonamide, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R^{25} .
10. The compound of Claim 2, wherein Y is NHR^6 .
11. The compound of Claim 10, wherein R^6 is selected from C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R^{25} .
12. The compound of Claim 11, wherein the aryl of R^6 is an optionally substituted aryl selected from the group consisting of:
- i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;
 - iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone; and
 - iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide.
13. The compound of Claim 12, wherein the aryl of R^6 is optionally substituted at one or more carbon atoms with R^{12} , wherein each R^{12} is independently selected from C_1 - C_6 alkyl, OCF_3 , CF_3 , $S(O)_n(C_1$ - C_4)alkyl, halo(C_1 - C_4)alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl C_1 - C_6 alkyl, heteroaryl, halo, haloalkyl, SR^{13} , OR^{13} , $OC(O)R^{13}$, $NR^{13}R^{13}$, $NR^{13}R^{14}$, $COOR^{13}$, NO_2 , CN , $C(O)R^{13}$, $C(O)C(O)R^{13}$, $C(O)NR^{13}R^{13}$, $S(O)_nR^{13}$, $S(O)_nNR^{13}R^{13}$, or $NR^{15}R^{16}$, wherein each n is independently 1 or 2; and wherein the alkyl, alkenyl, alkynyl,

cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵.

14. The compound of Claim 13, wherein R¹² is independently selected from C₁-C₆ alkyl, CF₃, OCF₃, S(O)_n(C₁-C₄)alkyl, halo(C₁-C₄)alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl, halo, SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, NO₂, CN, C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each n is independently 1 or 2.
15. The compound of Claim 14, wherein R¹² is an aryl and the aryl is independently selected from:
 - i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;
 - iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently nitrogen, oxygen, sulfur, sulfoxide, or sulfone; or
 - iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carboxamide, or sulfoxamide.
16. The compound of Claim 14, wherein R¹² is SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, CN, C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each R¹³ is independently selected from H, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₂-C₆ alkylcyano, C₂-C₆ alkyl sulfone, C₂-C₆ sulfonamide, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, alkoxy, aryl(C₁-C₆)alkyl, haloalkyl, or heteroaryl and R¹⁴ is C(O)R¹³, COOR¹³, C(O)NR¹³R¹³, SO₂NR¹³R¹³, or S(O)_nR¹³, wherein n is 1 or 2 and the alkyl, alkenyl, alkynyl, alkyl cyano, alkyl sulfone, alkyl sulfonamide, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, alkoxy, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵.
17. The compound Claim 16, wherein R¹² is NR¹⁵R¹⁶.

18. The compound Claim 17, wherein R^{15} and R^{16} , taken together with the nitrogen atom to which they are bonded, form:
- i) a 3-8 membered saturated or partially saturated monocyclic group, wherein the 3-8 membered saturated or partially saturated monocyclic group is optionally substituted with R^{25} ;
 - ii) an 8-12 membered saturated or partially saturated bicyclic group, wherein the 8-12 membered saturated or partially saturated bicyclic group is optionally substituted with R^{25} ;
 - iii) a 3-8 membered saturated or partially saturated monocyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone or sulfoxide, wherein the 3-8 membered saturated or partially saturated monocyclic group having 1-2 heteroatoms is optionally substituted with R^{13} or R^{14} ; or
 - iv) an 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, sulfoxide, wherein the 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms is optionally substituted with R^{13} or R^{14} .
19. The compound of Claim 11, wherein R^7 is the optionally substituted 5-6 membered monocyclic aryl group or 9-10 membered bicyclic aryl group.
20. The compound of Claim 19, wherein the optionally substituted 5-6 membered monocyclic aryl group is phenyl and 9-10 membered bicyclic aryl group is naphthyl, quinolinyl, indazolyl, indolyl, or dihydrobenzodioxynyl.
21. The compound of Claim 20, wherein the phenyl group is optionally substituted with 1-4 groups selected from the group consisting of methyl, methoxy, methylsulfone, amino, hydroxy, CF_3 , OCF_3 , halo, phenyl, phenoxy, piperazinyl, and morpholino.
22. The compound of Claim 1, wherein Z is H, halo, C_1 - C_3 alkyl, alkynyl or phenyl.
23. The compound of Claim 1, wherein R^1 is H and Y is NHR^{17} or R^{17} .
24. The compound of Claim 23, wherein X is NHR^{18} or OR^{18} .
25. The compound of Claim 23, wherein X is $NR^{18}R^{19}$.

26. The compound of Claim 23, wherein X is $\text{NR}^{19}\text{R}^{20}$.
27. The compound of Claim 23, wherein X is $\text{NR}^{15}\text{R}^{16}$.
28. The compound of Claim 23, wherein R^{17} is aryl($\text{C}_1\text{-C}_6$)alkyl, aryl or heteroaryl, wherein the aryl or the heteroaryl of R^{17} is substituted at two or more carbon atoms with at least one R^{21} and 0-2 R^{22} , wherein R^{21} is independently selected from OH, CF_3 , OCF_3 , O-aryl, or $\text{NR}^{15}\text{R}^{16}$ and R^{22} is independently selected from H, $\text{C}_1\text{-C}_6$ alkyl, CF_3 , OCF_3 , $\text{S}(\text{O})_n(\text{C}_1\text{-C}_4)\text{alkyl}$, halo($\text{C}_1\text{-C}_4$)alkyl, $\text{C}_2\text{-C}_6$ alkenyl, $\text{C}_3\text{-C}_6$ alkynyl, $\text{C}_3\text{-C}_6$ cycloalkyl, $\text{C}_3\text{-C}_8$ heterocycloalkyl, $\text{C}_4\text{-C}_6$ cycloalkenyl, aryl, aryl $\text{C}_1\text{-C}_6$ alkyl, heteroaryl, halo, haloalkyl, SR^{13} , OR^{13} , $\text{OC}(\text{O})\text{R}^{13}$, $\text{NR}^{13}\text{R}^{13}$, $\text{NR}^{13}\text{R}^{14}$, COOR^{13} , NO_2 , CN, $\text{C}(\text{O})\text{R}^{13}$, $\text{C}(\text{O})\text{C}(\text{O})\text{R}^{13}$, $\text{C}(\text{O})\text{NR}^{13}\text{R}^{13}$, $\text{S}(\text{O})_n\text{R}^{13}$, $\text{S}(\text{O})_n\text{NR}^{13}\text{R}^{13}$, or $\text{NR}^{15}\text{R}^{16}$, wherein each n is independently 1 or 2; and wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, heteroarylalkyl, or heteroaryl is optionally substituted with R^{25} ; and wherein the aryl group of said aryl($\text{C}_1\text{-C}_6$)alkyl is optionally substituted with halo.
29. The compound of Claim 28, wherein the aryl of O-aryl is independently selected from:
- i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone;
 - iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently nitrogen, oxygen, sulfur, sulfoxide or sulfone; or
 - iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carboxamide or sulfoxamide.
30. The compound of Claim 28, wherein the aryl of R^{17} is a 5-6 membered monocyclic aryl group substituted with at least one group selected from CF_3 , OCF_3 , O-aryl, or $\text{NR}^{15}\text{R}^{16}$ at the one or more carbon atoms.
31. The compound of Claim 30, wherein the monocyclic aryl group is phenyl substituted with at least one group selected from CF_3 , OCF_3 , O-aryl, or $\text{NR}^{15}\text{R}^{16}$ at the one or more carbon atoms.

32. The compound of Claim 27, wherein $\text{NR}^{15}\text{R}^{16}$ is morpholino, piperazinyl, homopiperazinyl, thiomorpholino, piperidinyl, or pyrrolidinyl, wherein the piperazinyl, homopiperazinyl, piperidinyl, or pyrrolidinyl is optionally substituted at one or more carbon atoms with 1, 2 or 3 R^{25} or at one nitrogen atom with R^{13} or R^{14} .
33. The compound of Claim 24, wherein R^{18} is selected from $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_3\text{-C}_6$ alkenyl, $\text{C}_3\text{-C}_6$ alkynyl, $\text{C}_3\text{-C}_6$ cycloalkyl, $\text{C}_3\text{-C}_8$ heterocycloalkyl, $\text{C}_4\text{-C}_6$ cycloalkenyl, aryl, aryl($\text{C}_1\text{-C}_6$)alkyl, haloalkyl or heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R^{25} .
34. The compound of Claim 33, wherein R^{18} is $\text{C}_1\text{-C}_6$ alkyl optionally substituted with one or more aryl, alkyl, halo, R^{23} or R^{24} , wherein each R^{23} is independently CF_3 , OCF_3 , SR^{13} , OR^{13} , $\text{NR}^{13}\text{R}^{13}$, $\text{S(O)}_n\text{NR}^{13}\text{R}^{13}$, $\text{S(O)}_n\text{R}^{13}$, or $\text{NR}^{15}\text{R}^{16}$, each of n being independently 1 or 2 and wherein each R^{24} is selected from a 5-8 membered monocyclic group having 1-3 heteroatoms, an 8-12 membered bicyclic group having 1-5 heteroatoms, or an 11-14 membered tricyclic group having 1-8 heteroatoms, wherein said heteroatoms of R^{24} are independently oxygen, nitrogen, or sulfur, wherein R^{24} is optionally substituted with R^{13} or R^{14} .
35. The compound of Claim 34, wherein zero, one, two, three or four atoms of R^{24} are optionally and independently substituted with R^{13} .
36. The compound of Claim 34, wherein the aryl is optionally and independently substituted at one or more carbon atoms with 1-3 R^{11} , wherein R^{11} is independently selected from OR^9 , NR^9R^9 , NR^9COR^9 , or $\text{NR}^9\text{S(O)}_n\text{R}^9$, wherein n is 1 or 2.
37. The compound of Claim 34, wherein the $\text{C}_1\text{-C}_6$ alkyl is $\text{C}_2\text{-C}_4$ alkyl optionally substituted with 1-3 groups selected from the group consisting of amino, hydroxy, phenyl, benzyl, and morpholino.
38. The compound of Claim 33, wherein R^{18} is $\text{C}_3\text{-C}_6$ alkenyl optionally substituted with one or more, aryl, alkyl, halo, R^{23} , or R^{24} , wherein each R^{23} is independently selected from CF_3 , OCF_3 , SR^{13} , OR^{13} , $\text{NR}^{13}\text{R}^{13}$, $\text{S(O)}_n\text{NR}^{13}\text{R}^{13}$, $\text{S(O)}_n\text{R}^{13}$, or $\text{NR}^{15}\text{R}^{16}$, wherein each n is independently 1 or 2, and wherein each R^{24} is independently selected from: a 5-8

membered monocyclic group having 1-3 heteroatoms; an 8-12 membered bicyclic having 1-5 heteroatoms; or an 11-14 membered tricyclic group having 1-8 heteroatoms, wherein said heteroatoms of R^{24} is independently selected from oxygen, nitrogen or sulfur, and wherein R^{24} is optionally substituted with R^{13} or R^{14} .

39. The compound of Claim 38, wherein zero, one, two, three or four atoms of R^{24} are optionally and independently substituted with R^{13} .
40. The compound of Claim 33, wherein R^{18} is C_3 - C_6 cycloalkyl optionally substituted with one or more, aryl, alkyl, halo, R^{23} or R^{24} ; wherein each R^{23} is independently selected from CF_3 , OCF_3 , SR^{13} , OR^{13} , $NR^{13}R^{13}$, $(CH_2)_nNR^{13}R^{13}$, $S(O)_nNR^{13}R^{13}$, $S(O)_nR^{13}$, or $NR^{15}R^{16}$, wherein each n is independently 1 or 2; and wherein each R^{24} is independently selected from a 5-8 membered monocyclic group having 1-3 heteroatoms, an 8-12 membered bicyclic group having 1-5 heteroatoms, or an 11-14 membered tricyclic group having 1-8 heteroatoms, wherein said heteroatoms of R^{24} is independently selected from oxygen, nitrogen or sulfur, and wherein R^{24} is optionally substituted with R^{13} or R^{14} .
41. The compound of Claim 40, wherein zero, one, two, three or four atoms of R^{24} are optionally and independently substituted with R^{13} .
42. The compound of Claim 25, wherein R^{18} is C_3 - C_6 cycloalkyl optionally substituted with one or more aryl, alkyl, halo, R^{23} , or R^{24} .
43. The compound of Claim 33, wherein R^{18} is C_3 - C_8 heterocycloalkyl, wherein the C_3 - C_8 heterocycloalkyl is a 5-7 membered monocycle having a heteroatom, wherein said heteroatom is independently selected from oxygen, nitrogen, sulfur, or sulfone; wherein the nitrogen atom is optionally substituted with R^{19} .
44. The compound of Claim 43, wherein the monocycle is optionally substituted morpholine, tetrahydrofuran, thiomorpholine, piperazine or homopiperazine.
45. The compound of Claim 25, wherein R^{19} is independently selected from C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, hydroxy(C_2 - C_6)alkyl, amino(C_2 - C_6)alkyl, C_2 - C_6 alkyl cyano, C_2 - C_6 alkyl sulfone, C_2 - C_6 sulfonamide, C_3 - C_6 cycloalkyl, C_4 - C_6 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, haloalkyl, or heteroaryl.

46. The compound of Claim 26, wherein R^{19} is independently selected from hydroxy(C_2 - C_6)alkyl, amino(C_2 - C_6)alkyl, C_2 - C_6 alkyl cyano, C_2 - C_6 alkyl sulfone, C_2 - C_6 sulfonamide, C_3 - C_6 cycloalkyl, or C_4 - C_8 heterocycloalkyl.
47. The compound of Claim 26, wherein R^{20} is selected from $C(O)R^{19}$, $COOR^{19}$, $C(O)NR^{19}R^{19}$, or $S(O)_nR^{19}$, wherein n is 1 or 2.
48. The compound of Claim 27, wherein R^{15} and R^{16} of $NR^{15}R^{16}$, taken together with the nitrogen atom to which they are bonded, form:
- i) a 3-8 membered saturated or partially saturated monocyclic group, wherein the 3-8 membered saturated or partially saturated monocyclic group is optionally substituted with R^{25} ;
 - ii) an 8-12 membered saturated or partially saturated bicyclic group, wherein the 8-12 membered saturated or partially saturated bicyclic group is optionally substituted with R^{25} ;
 - iii) a 3-8 membered saturated or partially saturated monocyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone or sulfoxide, wherein the 3-8 membered saturated or partially saturated monocyclic group having 1-2 heteroatoms is optionally substituted with R^{13} or R^{14} ; or
 - iv) an 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, sulfoxide, wherein the 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms is optionally substituted with R^{13} or R^{14} .
49. The compound of Claim 48, wherein $NR^{15}R^{16}$ is the 4-6 membered saturated monocyclic group optionally and independently substituted at one or more carbon atoms with 1-4 R^{25} .
50. The compound of Claim 49, wherein the aryl group of R^{25} is selected from:
- i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone;

- iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone; or
- iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide.

- 51. The compound of Claim 48, wherein $\text{NR}^{15}\text{R}^{16}$ is a 5-8 membered saturated heterocyclic group having 1-2 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, or sulfoxide, wherein said 5-8 membered saturated heterocyclic group is optionally substituted with hydroxy, amino, $\text{C}_1\text{-C}_6$ alkyl, or phenyl at one or more carbon atoms or nitrogen atoms.
- 52. The compound of Claim 49, wherein the 4-6 membered saturated monocyclic group is selected from piperidine or pyrrolidine optionally substituted with 1-4 groups selected from hydroxy, amino, $\text{C}_1\text{-C}_6$ alkyl, hydroxy($\text{C}_1\text{-C}_6$)alkyl, amino($\text{C}_1\text{-C}_6$)alkyl, or phenyl.
- 53. The compound of Claim 51, wherein the 5-8 membered saturated heterocyclic group is selected from morpholine, thiomorpholine, piperazine or homopiperazine optionally substituted with 1-4 groups selected from hydroxy, amino, $\text{C}_1\text{-C}_6$ alkyl and phenyl, wherein each $\text{C}_1\text{-C}_6$ alkyl is optionally substituted with one or more amino, or hydroxy.
- 54. The compound of Claim 51, wherein the 1-2 heteroatoms are nitrogen and nitrogen atoms are independently substituted with $\text{C}_1\text{-C}_6$ alkyl, $\text{C}(\text{O})\text{C}_1\text{-C}_3$ alkyl, or $\text{S}(\text{O})_2\text{C}_1\text{-C}_3$ alkyl, wherein the alkyl is optionally and independently substituted with amino or hydroxy.
- 55. The compound of Claim 1, wherein R^1 is methyl, X is selected from NH_2 or NHR^6 , and Y is selected from R^6 or NHR^6 .
- 56. A compound selected from:
 - 4-(3,5-dimethoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-6(6*H*)-one;
 - 4-(3,5-dimethoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3,5-dimethoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3,5-dimethoxyphenylamino)-2-(4-morpholinopiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

methyl 1-(4-(3,5-dimethoxyphenyl amino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)-4-hydroxy piperidine-4-carboxylate;

2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidine-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-2-(pyrrolidin-3-ylamino)-4-(4-trifluoromethylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,4*R*)-4-aminocyclohexyl amino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(2-morpholinoethoxy)-4-(3-(trifluoro methyl)phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-methylpiperazin-1-yl)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3,4-dihydroisoquinolin-2(1*H*)-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-hydroxypyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(piperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(2-hydroxyethyl)piperazin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-(2-((5-oxo-4-(3-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)methanesulfonamide;

(*S*)-2-(3-hydroxypyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

N-(1-(5-oxo-4-(4-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)piperidin-4-yl)cyclopropanesulfonamide;

2-(piperidin-4-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-2-(3-aminopyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-morpholino-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,4*R*)-4-hydroxycyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-oxopiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3,4-dihydroisoquinolin-2(1*H*)-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3-(3-(trifluoromethyl)phenyl)-6,7-dihydro-[1,2,3]triazolo[1,5-a]pyrazin-5(4*H*)-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(cyclopropylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(cyclopentylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(pyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(3-(trifluoromethyl)-5,6-dihydro-[1,2,4]triazolo[4,3-*a*]pyrazin-7(8*H*)-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(benzylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(benzyl(methyl)amino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(1-(4-fluorophenyl)ethylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(((tetrahydro-2*H*-pyran-4-yl)methylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-fluorobenzylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(piperidin-4-ylmethylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(tetrahydro-2*H*-pyran-4-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(1,4-diazepan-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(thiazolidin-3-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-(2-((5-oxo-4-(4-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)methanesulfonamide;

(*S*)-2-(1-cyclohexylethylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(cyclohexylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(1-methylpyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(1-isopropylpyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1-methylpiperidin-4-yl)methylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1-isopropylpiperidin-4-yl)methylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-((dimethylamino)methyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-methylthiazol-2-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(1-(methylsulfonyl)pyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(2-hydroxyethyl)piperazin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

ethyl 1-(5-oxo-4-(4-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)piperidine-4-carboxylate;

2-(4-(4-(2-hydroxyethyl)piperazine-1-carbonyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(4-(hydroxymethyl)piperidine-1-carbonyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*R*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*S*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*S*)-2-aminocyclohexylamino)-4-(2-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(2-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,4*R*)-4-aminocyclohexylamino)-4-(2-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-ethylpiperazin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(2-morpholinoethylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(methylsulfonyl)piperazin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(morpholinoamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-acetylpiperazin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(2-hydroxy-1-phenylethylamino)-4-(3-(trifluoromethyl)phenylaminopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(2-hydroxy-1-phenylethylamino)-4-(3-(trifluoromethyl)phenylaminopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(1-hydroxy-3-phenylpropan-2-ylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(1-hydroxy-3-phenylpropan-2-yl amino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

1-(5-oxo-4-(3-(trifluoromethyl)phenyl amino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)piperidine-4-carboxamide;

(*R*)-2,2,2-trifluoro-N-(1-(5-oxo-4-(3-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)pyrrolidin-3-yl)acetamide;

2-(4-(4-chlorophenyl)-4-hydroxy piperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*S*)-2-(phenylsulfonyl)cyclohexyl amino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*R*)-2-aminocyclohexylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-thiomorpholino-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-sulfonylpyrido)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-morpholinopiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-((1*R*,2*S*)-2-(5-oxo-4-(3-(trifluoro methyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)cyclohexyl) acetamide;

N-((1*R*,4*R*)-4-(5-oxo-4-(3-(trifluoro methyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)cyclohexyl) acetamide;

2-((1*R*,2*R*)-2-(dimethylamino)cyclohexyl amino)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3-bromophenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3-bromophenylamino)-2-(4-(dimethylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(3-bromophenylamino)-2-(4-(1-hydroxypropan-2-ylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(4-(3-aminopyrrolidin-1-yl) piperidin-1-yl)-4-(3-bromophenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-4-(3-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3-bromophenylamino)-2-(3-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-4-(4-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-2-(3-aminopyrrolidin-1-yl)-4-(4-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(4-bromophenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(4-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-4-(3-bromophenylamino)-2-(4-(1-hydroxypropan-2-ylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromophenylamino)-2-(4-(dimethylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(*m*-tolylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-4-(*m*-tolyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(3,5-bis(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(2-((1*R*, 2*S*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one with (2-((1*S*, 2*R*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl) phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-morpholinopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5 bis(trifluoromethyl)phenyl amino)-2-((1*r*,4*r*)-4-hydroxycyclohexyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(2-aminobenzylamino)-4-(3,5-bis(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-methylpiperazin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3,5-bis(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-4-(3,5-bis(trifluoromethyl)phenylamino)-2-(pyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(piperidin-4-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(1-methylpiperidin-4-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(3,5-bis(trifluoromethyl)phenylamino)-2-(1-methylpyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(dimethylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(2-hydroxyethyl)piperazin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-4-(3,5-bis(trifluoromethyl)phenylamino)-2-(3-hydroxypyrrolidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(3-hydroxyazetidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(2-hydroxyethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-((1*r*,4*r*)-4-(4-(3,5-bis(trifluoromethyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)cyclohexyl)acetamide;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(3-oxopiperazin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(piperazin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

methyl 1-(4-(3,5-bis(trifluoromethyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)-4-hydroxypiperidine-4-carboxylate;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,4*R*)-4-aminocyclohexylamino)-4-(3,5-bis(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(hydroxyimino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(phenoxyphenylamino)-2-(pyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-4-(4-(methylsulfonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-(2-((4-(4-(methylsulfonyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)methanesulfonamide;

2-(4-hydroxypiperidin-1-yl)-4-(4-(methylsulfonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-(methylsulfonyl)phenylamino)-2-(4-morpholinopiperidin-1-yl)pyrido[4,3-*d*]
pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-(methyl sulfonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-
5(6*H*)-one;

N-(2-((4-(4-(methylsulfonyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-
yl amino)methyl)phenyl)cyclopropane sulfonamide;

N-methyl-N-(2-((4-(4-(methylsulfonyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-
d]pyrimidin-2-ylamino)methyl)phenyl)cyclopropanesulfonamide;

(*S*)-2-(3-aminopyrrolidin-1-yl)-4-(4-(methylsulfonyl)phenylamino)pyrido[4,3-*d*]
pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-
5(6*H*)-one;

4-(4-(4-acetylpiperazin-1-yl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-
yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(4-morpholinophenylamino)-2-(pyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-
5(6*H*)-one hydrochloride;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-sulfonylphenylamino)pyrido[4,3-*d*]pyrimidin-
5(6*H*)-one;

4-(4-(4-acetylpiperazin-1-yl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-
yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-morpholinophenylamino)pyrido[4,3-
d]pyrimidin-5(6*H*)-one;

4-(4-(5-oxo-2-(piperidin-4-ylmethyl amino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-4-
ylamino)phenyl) morpholine 4-oxide hydrochloride;

4-(4-morpholinophenylamino)-2-(piperidin-4-ylmethylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

N-methyl-*N*-(2-((4-(4-morpholinophenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)cyclopropanesulfonamide;

N-(2-((4-(4-morpholinophenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)cyclopropanesulfonamide;

N-(2-((4-(4-morpholinophenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino) methyl)phenyl)methanesulfonamide;

2-(2-aminobenzylamino)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*S*)-2-aminocyclohexylamino)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(benzo[*d*][1,3]dioxol-5-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3,4,5-trimethoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]
pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)
pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenyl
amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3,4,5-trimethoxyphenylamino)pyrido
[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-dimethylphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]
pyrimidin-5(6*H*)-one;

4-(4-chloro-3-methoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-
5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]
pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)
pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenyl
amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]
pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-yl)pyrido
[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-
1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one

4-(3-chloro-5-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-5-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethoxy)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidine-1-yl)-6-methyl-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

6-methyl-4-(phenylamino)-2-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

methyl 4-(6-methyl-2-morpholino-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-4-ylamino) benzoate;

6-methyl-2-(methylamino)-4-(4-(piperazine-1-carbonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

methyl 4-(6-methyl-2-(methylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-4-ylamino) benzoate;

2-amino-6-methyl-4-(phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-fluorobenzylamino)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

6-methyl-2-(methylamino)-4-(phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-methoxybenzylamino)-6-methyl-4-(phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxycyclohexylamino)-6-methyl-4-(phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-methoxyphenyl)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxyphenyl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-methoxyphenyl)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-aminophenyl)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

1-(4-fluorophenyl)-3-(4-(6-methyl-2-(methylamino)-5-oxo-5,6-dihydropyrido [4,3-*d*]pyrimidin-4-yl)phenyl)urea;

8-bromo-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido [4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl) piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-chloro-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-bromo-3-methylphenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

8-bromo-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl) phenylamino)pyrido [4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-chloro-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-bromo-3-methylphenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

8-bromo-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido [4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluo romethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-chloro-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1- yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-methoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,4-dimethoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-4-methoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,4-dimethoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-4-methoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-8-bromo-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-iodo-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-8-iodopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)-8-iodopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-chloro-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-8-iodo-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(4-morpholino-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-chloro-3-(trifluoromethoxy)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

4-(4-chloro-3-(trifluoromethoxy)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-5-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

(*R*)-6-(3-aminopyrrolidin-1-yl)-4-iodo-8-(4-(trifluoromethyl)phenylamino)isoquinolin-1(2*H*)-one hydrochloride;

(*R*)-6-(3-aminopyrrolidin-1-yl)-4-bromo-8-(4-(trifluoromethyl)phenylamino)isoquinolin-1(2*H*)-one hydrochloride;

(*S*)-6-(3-aminopyrrolidin-1-yl)-4-bromo-8-(4-(trifluoromethyl)phenylamino)isoquinolin-1(2*H*)-one hydrochloride;

4-(2,3-dihydrobenzo[*b*][1,4]dioxin-6-ylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(naphthalen-2-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(quinolin-5-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3*H*-indol-2-ylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;
or

2-(4-hydroxypiperidin-1-yl)-4-(4-phenoxyphenylamino)-8-phenylpyrido[4,3-*d*]
pyrimidin-5(6*H*)-one.

57. A isomeric compound of Claim 1.
58. A pharmaceutical formulation comprising a compound of Claim 1 in combination with a pharmaceutically acceptable carrier, diluent or excipient.
59. A method of treating a protein kinase-mediated disease in a subject in need thereof, comprising administering to said subject a therapeutically effective amount of a compound of Claim 1 or a pharmaceutically acceptable salt thereof, wherein said protein kinase-mediated disease is selected from the group of consisting of asthma, chronic obstructive pulmonary disease (COPD), adult respiratory distress syndrome (ARDS), ulcerative colitis, Crohn's disease, bronchitis, dermatitis, allergic rhinitis, psoriasis, scleroderma, urticaria, bullous disorders, collagenoses, contact dermatitis eczema, Kawasaki Disease, rosacea, Sjogren-Larsson Syndrome, rheumatoid arthritis, multiple sclerosis, inflammatory bowel syndrome, HIV associated diseases, lupus, lymphoma, osteosarcoma, melanoma, breast cancer, renal cancer, prostate cancer, colorectal cancer, thyroid cancer, ovarian cancer, pancreatic cancer, neuronal cancer, lung cancer, uterine cancer, gastrointestinal cancer, Alzheimer's disease, Parkinson's disease, osteoporosis, osteopenia, osteomalacia, osteofibrosis, Paget's disease, diabetes, blood vessel proliferative disorders, ocular diseases, cardiovascular disease, restenosis, fibrosis, atherosclerosis, arrhythmia, angina, myocardial ischemia, myocardial infarction, cardiac or vascular aneurysm, vasculitis, stroke, peripheral obstructive arteriopathy, reperfusion injury following ischemia of an organ or a tissue, endotoxic, surgical or traumatic shock, hypertension, valvular heart disease, heart failure, abnormal blood pressure, vasoconstriction, vascular abnormality, transplant rejection and infectious diseases including viral and fungal infections.
60. The method of Claim 59, wherein said compound of Claim 1 is administered singly or in combination with one or more additional therapeutic agents.

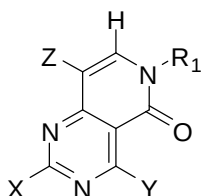
61. The method of Claim 60, wherein said compound of Claim 1 is administered via intravenous administration, subcutaneous administration, inhalation, oral administration, rectal administration, parenteral, intravitreal administration, intramuscular administration, intranasal administration, dermal administration, topical administration, otic administration, ophthalmic administration, buccal administration, tracheal administration, bronchial administration, or sublingual administration.
62. A method of inhibiting SYK, PYK2, FAK, ZAP70, PIM1, FLT3, RET, JAK2, JAK3, LRRK2, LRRK2(G2019S), ALK, AURKA, AXL, BMPR2, CSF1R, JNK1, JNK2, JNK3, KIT, KIT(D816V), LKB1, MLK1, PAK4, PDGFRB, PLK4, RSK2, SNARK, SRPK3, TAK1, or TYK2 signaling in a subject in need thereof, comprising administering to said subject an effective amount of a compound of Claim 1.
63. A method of inhibiting growth of cancer cells, comprising contacting the cancer cells with a compound of Claim 1 or a pharmaceutically acceptable salt thereof.
64. A method of treating cancer in a subject in need thereof, comprising administering to the subject an effective amount of a compound of Claim 1 or a pharmaceutically acceptable salt thereof.
65. The method of treating cancer in Claim 64, wherein said cancer is leukemia, lung cancer, colon cancer, CNS cancer, melanoma, ovarian cancer, renal cancer, prostate cancer, or breast cancer.
66. The method of treating cancer in Claim 65, wherein said compound is selected from the group consisting of:
2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidine-5(6*H*)-one;
(*S*)-2-(pyrrolidin-3-ylamino)-4-(4-trifluoromethylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;
(*S*)-4-(4-morpholinophenylamino)-2-(pyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;
2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-sulfonylphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one; and

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one.

67. A method of treating neurodegenerative disease in a subject in need thereof, comprising administering to the subject an effective amount of a compound of Claim 1 or a pharmaceutically acceptable salt thereof.
68. The method of treating neurodegenerative disease in Claim 67, wherein said disease is Parkinson's disease or Alzheimer's disease.
69. The method of treating neurodegenerative disease in Claim 67, wherein said compound is selected from:
2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidine-5(6*H*)-one; or
4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one.
70. A method of treating inflammatory disease in a subject in need thereof, comprising administering to the subject an effective amount of a compound of Claim 1 or a pharmaceutically acceptable salt thereof.
71. The method of treating inflammatory disease in Claim 70, wherein said inflammatory disease is asthma, chronic obstructive pulmonary disease (COPD), adult respiratory distress syndrome (ARDS), ulcerative colitis, Crohn's disease, bronchitis, dermatitis, allergic rhinitis, psoriasis, scleroderma, urticaria, rheumatoid arthritis, multiple sclerosis, or cancer.
72. The method of treating inflammatory disease in Claim 71, wherein said compound is selected from:
2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidine-5(6*H*)-one; or
2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one.

CLAIMS

1. A compound of Formula (I):



Formula (I)

wherein: (a) when R¹ is H and X is NR²R³ or NR⁴R⁵, then

Y is NHR⁶ and

Z is selected from H, halogen, C₁-C₃ alkyl, C₂-C₄ alkynyl, aryl, heteroaryl, or C₃-C₈ cycloalkyl, wherein the alkyl, cycloalkyl, aryl, alkynyl or heteroaryl is optionally substituted with halo, alkyl, or cyano; wherein:

R² and R³, taken together with the nitrogen atom to which they are bonded form:

- i) a 3-8 membered saturated or partially saturated monocyclic group having no heteroatom other than the nitrogen atom to which R² and R³ are bonded, wherein said 3-8 membered saturated or partially saturated monocyclic group is independently substituted at one or more carbon atoms with 1-2 R⁷ and optionally substituted at one or more carbon atoms with 0-4 R⁸, wherein R⁷ is hydroxy, heterocycloalkyl, or NR⁹R⁹ and R⁸ is hydroxy(C₁-C₆)alkyl, aryl, COOR⁹, (CH₂)_nNR⁹R⁹, or (CH₂)_nNR⁹R¹⁰, wherein each n is independently 1, 2, or 3 and the aryl is optionally substituted with halo; or
- ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;

each R^9 is independently selected from H, C_1 - C_6 alkyl, C_3 - C_6 alkynyl, C_2 - C_6 alkyl cyano, C_2 - C_6 alkyl sulfone, C_3 - C_6 cycloalkyl sulfone, C_2 - C_6 sulfonamide, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, aryl, aryl(C_1 - C_6) alkyl, or heteroaryl, wherein the alkyl, alkynyl, alkylcyano, alkylsulfone, sulfonamide, cycloalkyl, heterocycloalkyl, aryl, arylalkyl, or heteroaryl is optionally substituted with R^{25} ;

R^{10} is $C(O)R^9$, $COOR^9$, $C(O)NR^9R^9$, or $S(O)_nR^9$, wherein n is 1 or 2;

R^4 is selected from H, C_1 - C_6 alkyl, or hydroxy(C_1 - C_6)alkyl;

R^5 is aryl(C_1 - C_3)alkyl, wherein the aryl group is independently substituted at one or more carbon atoms with 1-3 R^{11} , wherein R^{11} is independently selected from OR^9 , NR^9R^9 , NR^9COR^9 , or $NR^9S(O)_nR^9$, wherein n is 1 or 2;

R^6 is selected from C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl(C_1 - C_6)alkyl, or heteroaryl, wherein the heterocycloalkyl, aryl, or heteroaryl is optionally substituted, wherein the heterocycloalkyl, aryl, or heteroaryl of R^6 is optionally substituted with an aryl selected from the group consisting of:

- i) a 5-6 membered monocyclic aryl group;
- ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;
- iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone; and

iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide; or

the heterocycloalkyl, aryl, or heteroaryl of R^6 is optionally substituted at one or more carbon atoms with R^{12} , wherein each R^{12} is independently selected from C_1 - C_6 alkyl, CF_3 , OCF_3 , $S(O)_n(C_1-C_4)alkyl$, $halo(C_1-C_4)alkyl$, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl, C_4 - C_6 cycloalkenyl, aryl, aryl (C_1 - C_6)alkyl, heteroaryl, halo, haloalkyl, SR^{13} , OR^{13} , $OC(O)R^{13}$, $NR^{13}R^{13}$, $NR^{13}R^{14}$, $COOR^{13}$, NO_2 , CN , $C(O)R^{13}$, $C(O)C(O)R^{13}$, $C(O)NR^{13}R^{13}$, $S(O)_nR^{13}$, $S(O)_nNR^{13}R^{13}$, or $NR^{15}R^{16}$, wherein each n is independently 1 or 2 and the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R^{25} , wherein the aryl and heteroaryl of R^{12} is independently selected from:

- i) a 5-6 membered monocyclic aryl group;
- ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone;
- iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently nitrogen, oxygen, sulfur, sulfoxide or sulfone; or
- iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide;

each R^{13} is independently selected from H, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_3 - C_6 alkynyl, C_2 - C_6 alkyl cyano, C_2 - C_6 alkyl sulfone, C_2 - C_6 sulfonamide, C_3 - C_6 cycloalkyl, C_3 - C_8 heterocycloalkyl,

C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, haloalkyl or heteroaryl, wherein the alkyl, alkenyl, alkynyl, alkyl cyano, alkyl sulfone, alkyl sulfonamide, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵;

R¹⁴ is C(O)R¹³, COOR¹³, C(O)NR¹³R¹³, SO₂NR¹³R¹³, or S(O)_nR¹³, wherein n is 1 or 2;

R¹⁵ and R¹⁶, taken together with the nitrogen atom to which they are bonded, form:

- i) a 3-8 membered saturated or partially saturated monocyclic group, wherein the 3-8 membered saturated or partially saturated monocyclic group is optionally substituted with R²⁵;
- ii) an 8-12 membered saturated or partially saturated bicyclic group, wherein the 8-12 membered saturated or partially saturated bicyclic group is optionally substituted with R²⁵;
- iii) a 3-8 membered saturated or partially saturated monocyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone or sulfoxide, wherein the 3-8 membered saturated or partially saturated monocyclic group having 1-2 heteroatoms is optionally substituted with R¹³ or R¹⁴; or
- iv) a 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, sulfoxide, wherein the 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms is optionally substituted with R¹³ or R¹⁴;

(b) when R¹ is H and Y is NHR¹⁷ or R¹⁷, then

X is OR¹⁸, NHR¹⁸, NR¹⁵R¹⁶, NR¹⁸R¹⁹, or NR¹⁹R²⁰; and

Z is H, halogen, C₁-C₃ alkyl, C₂-C₄ alkynyl, aryl, heteroaryl, or C₃-C₈ cycloalkyl, wherein the alkyl, alkynyl, cycloalkyl, aryl, or heteroaryl is optionally substituted with halo, alkyl, or cyano, wherein:

R¹⁷ is selected from aryl(C₁-C₆)alkyl, aryl, or heteroaryl, wherein the aryl, or the heteroaryl is substituted at one or more carbon atoms with at least one R²¹ and 0-2 R²² and the aryl group of said aryl(C₁-C₆)alkyl is optionally substituted with halo;

R²¹ is independently selected from OH, CF₃, OCF₃, O-aryl, or NR¹⁵R¹⁶;

R²² is independently H, C₁-C₆ alkyl, CF₃, OCF₃, S(O)_n(C₁-C₄)alkyl, halo(C₁-C₄)alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl, halo, SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, NO₂, CN, C(O)R¹³, C(O)C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, NR¹³C(O)NR¹³R¹³, NR¹³C(O)R¹³, NR¹³(COOR¹³), NR¹³S(O)_nR¹³, or NR¹⁵R¹⁶, wherein each n is independently 1 or 2 and wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵;

R¹⁸ is selected from C₁-C₆ alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, hydroxy(C₂-C₆)alkyl, amino(C₂-C₆)alkyl, haloalkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵;

each R¹⁹ is independently selected from C₁-C₆ alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, hydroxy(C₂-C₆)alkyl, amino(C₂-C₆)alkyl, C₂-C₆ alkyl cyano, C₂-C₆ alkyl sulfone, C₂-C₆ sulfonamide, C₃-C₆ cycloalkyl, C₃-

C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, haloalkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, alkyl cyano, alkylsulfone, sulfonamide, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵;

R²⁰ is C(O)R¹⁹, COOR¹⁹, C(O)NR¹⁹R¹⁹ or S(O)_nR¹⁹, wherein n is 1 or 2;

each R²⁵ is independently selected from hydroxy, hydroxy(C₁-C₆)alkyl, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₆cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl(C₁-C₆)alkyl, aryl, halo, haloalkyl, oxo, oxime, CF₃, SR¹³, OCF₃, OR¹³, OC(O)CH₂R¹³, NR¹³R¹³, NR¹³R¹⁴, NHC(O)R¹³, (CH₂)_nNR¹³R¹³, COOR¹³, CN, C(O)R¹³, C(O)CF₃, CONR¹⁵R¹⁶, CONH₂, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each n is independently 1 or 2 and the heterocycloalkyl is optionally substituted with C₁-C₃ alkyl; and

(c) when R¹ is CH₃, then

X is NH₂ or NHR⁶,

Y is NHR⁶ or R⁶, and

Z is H, halogen, C₁-C₃ alkyl, C₂-C₄ alkynyl, aryl, heteroaryl, or C₃-C₈ cycloalkyl, wherein the alkyl, cycloalkyl, aryl, alkynyl, or heteroaryl is optionally substituted with halo, alkyl, or cyano, or

a pharmaceutically acceptable salt thereof;

wherein each heterocycloalkyl is independently a 3 to 8 membered ring having 1 to 3 heteroatoms in the ring selected from N, O, S, sulfone or sulfoxide.

2. The compound of Claim 1, wherein R¹ is H and X is NR²R³.
3. The compound of Claim 1, wherein R¹ is H and X is NR⁴R⁵.

4. The compound of Claim 2, wherein NR^2R^3 is a 3-8 membered saturated or partially saturated monocyclic group having no heteroatom other than the nitrogen atom to which R^2 and R^3 are bonded, wherein said 3-8 membered saturated or partially saturated monocyclic group is independently substituted at one or more carbon atoms with 1-2 R^7 and optionally substituted at one or more carbon atoms with 0-4 R^8 , wherein R^7 is hydroxy, heterocycloalkyl, or NR^9R^9 and R^8 is hydroxy($\text{C}_1\text{-C}_6$)alkyl, aryl, COOR^9 , $(\text{CH}_2)_n\text{NR}^9\text{R}^9$, or $(\text{CH}_2)_n\text{NR}^9\text{R}^{10}$, wherein each n is independently 1, 2, or 3 and the aryl is optionally substituted with halo.
5. The compound of Claim 2, wherein NR^2R^3 is selected from an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone.
6. The compound of Claim 4, wherein the 3-8 membered saturated or partially saturated monocyclic group is substituted with hydroxy or amine.
7. The compound of Claim 6, wherein the 3-8 membered saturated or partially saturated monocyclic group is azetidine, piperidine or pyrrolidine, wherein the azetidine, piperidine or pyrrolidine is independently substituted with 1-3 hydroxy or amino group and optionally and independently substituted with hydroxymethyl at the one or more carbon atoms.
8. The compound of Claim 3, wherein R^4 is selected from H, $\text{C}_1\text{-C}_6$ alkyl, or hydroxy($\text{C}_1\text{-C}_6$) alkyl and R^5 is aryl($\text{C}_1\text{-C}_3$)alkyl, wherein the aryl group of aryl($\text{C}_1\text{-C}_3$)alkyl of R^5 is independently substituted at the one or more carbon atoms with 1-3 R^{11} , wherein R^{11} is independently selected from OR^9 , NR^9R^9 , NR^9COR^9 , or $\text{NR}^9\text{S(O)}_n\text{R}^9$, wherein n is 1 or 2.
9. The compound of Claim 4, wherein R^9 is independently selected from H, $\text{C}_1\text{-C}_6$ alkyl, $\text{C}_2\text{-C}_6$ alkenyl, $\text{C}_3\text{-C}_6$ alkynyl, $\text{C}_2\text{-C}_6$ alkyl cyano, $\text{C}_2\text{-C}_6$ alkyl sulfone, $\text{C}_3\text{-C}_6$ alkyl sulfone, $\text{C}_3\text{-C}_6$ cycloalkyl sulfone, $\text{C}_2\text{-C}_6$ sulfonamide, $\text{C}_3\text{-C}_6$ cycloalkyl, $\text{C}_3\text{-C}_8$ heterocycloalkyl, $\text{C}_4\text{-C}_6$ cycloalkenyl, aryl, aryl($\text{C}_1\text{-C}_6$)alkyl, haloalkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, alkyl cyano, alkyl

sulfone, sulfonamide, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵.

10. The compound of Claim 2, wherein Y is NHR⁶.
11. The compound of Claim 10, wherein R⁶ is selected from C₁-C₆ alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, or heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵.
12. The compound of Claim 11, wherein the aryl of R⁶ is an optionally substituted aryl selected from the group consisting of:
 - i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;
 - iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone; and
 - iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide.
13. The compound of Claim 12, wherein the aryl of R⁶ is optionally substituted at one or more carbon atoms with R¹², wherein each R¹² is independently selected from C₁-C₆ alkyl, OCF₃, CF₃, S(O)_n(C₁-C₄)alkyl, halo(C₁-C₄)alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl C₁-C₆ alkyl, heteroaryl, halo, haloalkyl, SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, NO₂, CN, C(O)R¹³, C(O)C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each n is independently 1 or 2; and wherein the alkyl, alkenyl, alkynyl, cycloalkyl,

heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵.

14. The compound of Claim 13, wherein R¹² is independently selected from C₁-C₆ alkyl, CF₃, OCF₃, S(O)_n(C₁-C₄)alkyl, halo(C₁-C₄)alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl, halo, SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, NO₂, CN, C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each n is independently 1 or 2.
15. The compound of Claim 14, wherein R¹² is an aryl and the aryl is independently selected from:
- i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone;
 - iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently nitrogen, oxygen, sulfur, sulfoxide, or sulfone; or
 - iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carboxamide, or sulfoxamide.
16. The compound of Claim 14, wherein R¹² is SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, CN, C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each R¹³ is independently selected from H, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₂-C₆ alkylcyano, C₂-C₆ alkyl sulfone, C₂-C₆ sulfonamide, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, alkoxy, aryl(C₁-C₆)alkyl, haloalkyl, or heteroaryl and R¹⁴ is C(O)R¹³, COOR¹³, C(O)NR¹³R¹³, SO₂NR¹³R¹³, or S(O)_nR¹³, wherein n is 1 or 2 and the alkyl, alkenyl, alkynyl, alkyl cyano, alkyl sulfone, alkyl sulfonamide,

cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, alkoxy, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵.

17. The compound Claim 16, wherein R¹² is NR¹⁵R¹⁶.
18. The compound Claim 17, wherein R¹⁵ and R¹⁶, taken together with the nitrogen atom to which they are bonded, form:
 - i) a 3-8 membered saturated or partially saturated monocyclic group, wherein the 3-8 membered saturated or partially saturated monocyclic group is optionally substituted with R²⁵;
 - ii) an 8-12 membered saturated or partially saturated bicyclic group, wherein the 8-12 membered saturated or partially saturated bicyclic group is optionally substituted with R²⁵;
 - iii) a 3-8 membered saturated or partially saturated monocyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone or sulfoxide, wherein the 3-8 membered saturated or partially saturated monocyclic group having 1-2 heteroatoms is optionally substituted with R¹³ or R¹⁴; or
 - iv) an 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, sulfoxide, wherein the 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms is optionally substituted with R¹³ or R¹⁴.
19. The compound of Claim 11, wherein R⁶ is the optionally substituted 5-6 membered monocyclic aryl group or 9-10 membered bicyclic aryl group.
20. The compound of Claim 19, wherein the optionally substituted 5-6 membered monocyclic aryl group is phenyl and 9-10 membered bicyclic aryl group is naphthyl, quinoliny, indazolyl, indolyl, or dihydrobenzodioxynyl.
21. The compound of Claim 20, wherein the phenyl group is optionally substituted with 1-4 groups selected from the group consisting of methyl, methoxy, methylsulfone, amino, hydroxy, CF₃, OCF₃, halo, phenyl, phenoxy, piperazinyl, and morpholino.

22. The compound of Claim 1, wherein Z is H, halo, C₁-C₃ alkyl, alkynyl or phenyl.
23. The compound of Claim 1, wherein R¹ is H and Y is NHR¹⁷ or R¹⁷.
24. The compound of Claim 23, wherein X is NHR¹⁸ or OR¹⁸.
25. The compound of Claim 23, wherein X is NR¹⁸R¹⁹.
26. The compound of Claim 23, wherein X is NR¹⁹R²⁰.
27. The compound of Claim 23, wherein X is NR¹⁵R¹⁶.
28. The compound of Claim 23, wherein R¹⁷ is aryl(C₁-C₆)alkyl, aryl or heteroaryl, wherein the aryl or the heteroaryl of R¹⁷ is substituted at two or more carbon atoms with at least one R²¹ and 0-2 R²², wherein R²¹ is independently selected from OH, CF₃, OCF₃, O-aryl, or NR¹⁵R¹⁶ and R²² is independently selected from H, C₁-C₆ alkyl, CF₃, OCF₃, S(O)_n(C₁-C₄)alkyl, halo(C₁-C₄)alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl C₁-C₆ alkyl, heteroaryl, halo, haloalkyl, SR¹³, OR¹³, OC(O)R¹³, NR¹³R¹³, NR¹³R¹⁴, COOR¹³, NO₂, CN, C(O)R¹³, C(O)C(O)R¹³, C(O)NR¹³R¹³, S(O)_nR¹³, S(O)_nNR¹³R¹³, or NR¹⁵R¹⁶, wherein each n is independently 1 or 2; and wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, heteroarylalkyl, or heteroaryl is optionally substituted with R²⁵; and wherein the aryl group of said aryl(C₁-C₆)alkyl is optionally substituted with halo.
29. The compound of Claim 28, wherein the aryl of O-aryl is independently selected from:
 - i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone;

- iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently nitrogen, oxygen, sulfur, sulfoxide or sulfone; or
 - iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carboxamide or sulfoxamide.
30. The compound of Claim 28, wherein the aryl of R¹⁷ is a 5-6 membered monocyclic aryl group substituted with at least one group selected from CF₃, OCF₃, O-aryl, or NR¹⁵R¹⁶ at the one or more carbon atoms.
31. The compound of Claim 30, wherein the monocyclic aryl group is phenyl substituted with at least one group selected from CF₃, OCF₃, O-aryl, or NR¹⁵R¹⁶ at the one or more carbon atoms.
32. The compound of Claim 27, wherein NR¹⁵R¹⁶ is morpholino, piperazinyl, homopiperazinyl, thiomorpholino, piperidinyl, or pyrrolidinyl, wherein the piperazinyl, homopiperazinyl, piperidinyl, or pyrrolidinyl is optionally substituted at one or more carbon atoms with 1, 2 or 3 R²⁵ or at one nitrogen atom with R¹³ or R¹⁴.
33. The compound of Claim 24, wherein R¹⁸ is selected from C₁-C₆ alkyl, C₃-C₆ alkenyl, C₃-C₆ alkynyl, C₃-C₆ cycloalkyl, C₃-C₈ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, haloalkyl or heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, cycloalkenyl, aryl, arylalkyl, haloalkyl, or heteroaryl is optionally substituted with R²⁵.
34. The compound of Claim 33, wherein R¹⁸ is C₁-C₆ alkyl optionally substituted with one or more aryl, alkyl, halo, R²³ or R²⁴, wherein each R²³ is independently CF₃, OCF₃, SR¹³, OR¹³, NR¹³R¹³, S(O)_nNR¹³R¹³, S(O)_nR¹³, or NR¹⁵R¹⁶, each of n being independently 1 or 2 and wherein each R²⁴ is selected from a 5-8 membered monocyclic group having 1-3 heteroatoms, an 8-12 membered bicyclic group having 1-5 heteroatoms, or an 11-14 membered tricyclic group having 1-8 heteroatoms, wherein said

heteroatoms of R^{24} are independently oxygen, nitrogen, or sulfur, wherein R^{24} is optionally substituted with R^{13} or R^{14} .

35. The compound of Claim 34, wherein zero, one, two, three or four atoms of R^{24} are optionally and independently substituted with R^{13} .
36. The compound of Claim 34, wherein the aryl is optionally and independently substituted at one or more carbon atoms with 1-3 R^{11} , wherein R^{11} is independently selected from OR^9 , NR^9R^9 , NR^9COR^9 , or $NR^9S(O)_nR^9$, wherein n is 1 or 2.
37. The compound of Claim 34, wherein the C_1 - C_6 alkyl is C_2 - C_4 alkyl optionally substituted with 1-3 groups selected from the group consisting of amino, hydroxy, phenyl, benzyl, and morpholino.
38. The compound of Claim 33, wherein R^{18} is C_3 - C_6 alkenyl optionally substituted with one or more, aryl, alkyl, halo, R^{23} , or R^{24} , wherein each R^{23} is independently selected from CF_3 , OCF_3 , SR^{13} , OR^{13} , $NR^{13}R^{13}$, $S(O)_nNR^{13}R^{13}$, $S(O)_nR^{13}$, or $NR^{15}R^{16}$, wherein each n is independently 1 or 2, and wherein each R^{24} is independently selected from: a 5-8 membered monocyclic group having 1-3 heteroatoms; an 8-12 membered bicyclic having 1-5 heteroatoms; or an 11-14 membered tricyclic group having 1-8 heteroatoms, wherein said heteroatoms of R^{24} is independently selected from oxygen, nitrogen or sulfur, and wherein R^{24} is optionally substituted with R^{13} or R^{14} .
39. The compound of Claim 38, wherein zero, one, two, three or four atoms of R^{24} are optionally and independently substituted with R^{13} .
40. The compound of Claim 33, wherein R^{18} is C_3 - C_6 cycloalkyl optionally substituted with one or more, aryl, alkyl, halo, R^{23} or R^{24} ; wherein each R^{23} is independently selected from CF_3 , OCF_3 , SR^{13} , OR^{13} , $NR^{13}R^{13}$, $(CH_2)_nNR^{13}R^{13}$, $S(O)_nNR^{13}R^{13}$, $S(O)_nR^{13}$, or $NR^{15}R^{16}$, wherein each n is independently 1 or 2; and wherein each R^{24} is independently selected from a 5-8 membered monocyclic group having 1-3 heteroatoms, an 8-12

membered bicyclic group having 1-5 heteroatoms, or an 11-14 membered tricyclic group having 1-8 heteroatoms, wherein said heteroatoms of R²⁴ is independently selected from oxygen, nitrogen or sulfur, and wherein R²⁴ is optionally substituted with R¹³ or R¹⁴.

41. The compound of Claim 40, wherein zero, one, two, three or four atoms of R²⁴ are optionally and independently substituted with R¹³.
42. The compound of Claim 25, wherein R¹⁸ is C₃-C₆ cycloalkyl optionally substituted with one or more aryl, alkyl, halo, R²³, or R²⁴.
43. The compound of Claim 33, wherein R¹⁸ is C₃-C₈ heterocycloalkyl, wherein the C₃-C₈ heterocycloalkyl is a 5-7 membered monocycle having a heteroatom, wherein said heteroatom is independently selected from oxygen, nitrogen, sulfur, or sulfone; wherein the nitrogen atom is optionally substituted with R¹⁹.
44. The compound of Claim 43, wherein the monocycle is optionally substituted morpholine, tetrahydrofuran, thiomorpholine, piperazine or homopiperazine.
45. The compound of Claim 25, wherein R¹⁹ is independently selected from C₁-C₆ alkyl, C₂-C₆ alkenyl, C₃-C₆ alkynyl, hydroxy(C₂-C₆)alkyl, amino(C₂-C₆)alkyl, C₂-C₆ alkyl cyano, C₂-C₆ alkyl sulfone, C₂-C₆ sulfonamide, C₃-C₆ cycloalkyl, C₄-C₆ heterocycloalkyl, C₄-C₆ cycloalkenyl, aryl, aryl(C₁-C₆)alkyl, haloalkyl, or heteroaryl.
46. The compound of Claim 26, wherein R¹⁹ is independently selected from hydroxy(C₂-C₆)alkyl, amino(C₂-C₆)alkyl, C₂-C₆ alkyl cyano, C₂-C₆ alkyl sulfone, C₂-C₆ sulfonamide, C₃-C₆ cycloalkyl, or C₄-C₈ heterocycloalkyl.
47. The compound of Claim 26, wherein R²⁰ is selected from C(O)R¹⁹, COOR¹⁹, C(O)NR¹⁹R¹⁹, or S(O)_nR¹⁹, wherein n is 1 or 2.
48. The compound of Claim 27, wherein R¹⁵ and R¹⁶ of NR¹⁵R¹⁶, taken together with the nitrogen atom to which they are bonded, form:

- i) a 3-8 membered saturated or partially saturated monocyclic group, wherein the 3-8 membered saturated or partially saturated monocyclic group is optionally substituted with R²⁵;
 - ii) an 8-12 membered saturated or partially saturated bicyclic group, wherein the 8-12 membered saturated or partially saturated bicyclic group is optionally substituted with R²⁵;
 - iii) a 3-8 membered saturated or partially saturated monocyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone or sulfoxide, wherein the 3-8 membered saturated or partially saturated monocyclic group having 1-2 heteroatoms is optionally substituted with R¹³ or R¹⁴; or
 - iv) an 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, sulfoxide, wherein the 8-12 membered saturated or partially saturated bicyclic group having 1-3 heteroatoms is optionally substituted with R¹³ or R¹⁴.
49. The compound of Claim 48, wherein NR¹⁵R¹⁶ is the 4-6 membered saturated monocyclic group optionally and independently substituted at one or more carbon atoms with 1-4 R²⁵.
50. The compound of Claim 49, wherein the aryl group of R²⁵ is selected from:
- i) a 5-6 membered monocyclic aryl group;
 - ii) an 8-10 membered bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide or sulfone;
 - iii) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having 0-5 heteroatoms independently selected from nitrogen, oxygen, sulfur, sulfoxide, or sulfone; or
 - iv) an 8-10 membered unsaturated or partially unsaturated bicyclic aryl group having a carbonyl, carboxamide, or sulfoxamide.

51. The compound of Claim 48, wherein NR¹⁵R¹⁶ is a 5-8 membered saturated heterocyclic group having 1-2 heteroatoms selected from nitrogen, oxygen, sulfur, sulfone, or sulfoxide, wherein said 5-8 membered saturated heterocyclic group is optionally substituted with hydroxy, amino, C₁-C₆ alkyl, or phenyl at one or more carbon atoms or nitrogen atoms.
52. The compound of Claim 49, wherein the 4-6 membered saturated monocyclic group is selected from piperidine or pyrrolidine optionally substituted with 1-4 groups selected from hydroxy, amino, C₁-C₆ alkyl, hydroxy(C₁-C₆)alkyl, amino(C₁-C₆)alkyl, or phenyl.
53. The compound of Claim 51, wherein the 5-8 membered saturated heterocyclic group is selected from morpholine, thiomorpholine, piperazine or homopiperazine optionally substituted with 1-4 groups selected from hydroxy, amino, C₁-C₆ alkyl and phenyl, wherein each C₁-C₆ alkyl is optionally substituted with one or more amino, or hydroxy.
54. The compound of Claim 51, wherein the 1-2 heteroatoms are nitrogen and nitrogen atoms are independently substituted with C₁-C₆ alkyl, C(O) C₁-C₃ alkyl, or S(O)₂C₁-C₃ alkyl, wherein the alkyl is optionally and independently substituted with amino or hydroxy.
55. The compound of Claim 1, wherein R¹ is methyl, X is selected from NH₂ or NHR⁶, and Y is selected from R⁶ or NHR⁶.
56. A compound or salt of claim 1, wherein the compound or salt is selected from the group consisting of:
- 4-(3,5-dimethoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3,-*d*]pyrimidin-6(6*H*)-one;
- 4-(3,5-dimethoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3,5-dimethoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3,5-dimethoxyphenylamino)-2-(4-morpholinopiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

methyl 1-(4-(3,5-dimethoxyphenyl amino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)-4-hydroxy piperidine-4-carboxylate;

2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidine-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-2-(pyrrolidin-3-ylamino)-4-(4-trifluoromethylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,4*R*)-4-aminocyclohexyl amino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(2-morpholinoethoxy)-4-(3-(trifluoro methyl)phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-methylpiperazin-1-yl)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3,4-dihydroisoquinolin-2(1*H*)-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-hydroxypyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(piperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(2-hydroxyethyl)piperazin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-(2-((5-oxo-4-(3-(trifluoromethyl) phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)methanesulfonamide;

(*S*)-2-(3-hydroxypyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(4-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

N-(1-(5-oxo-4-(4-(trifluoromethyl) phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)piperidin-4-yl)cyclopropanesulfonamide;

2-(piperidin-4-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-2-(3-aminopyrrolidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-morpholino-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,4*R*)-4-hydroxycyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-oxopiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3,4-dihydroisoquinolin-2(1*H*)-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3-(3-(trifluoromethyl)phenyl)-6,7-dihydro-[1,2,3]triazolo[1,5-*a*]pyrazin-5(4*H*)-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(cyclopropylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(cyclopentylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(pyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(3-(trifluoromethyl)-5,6-dihydro-[1,2,4]triazolo[4,3-*a*]pyrazin-7(8*H*)-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(benzylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(benzyl(methyl)amino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(1-(4-fluorophenyl)ethylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((tetrahydro-2*H*-pyran-4-yl)methylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-fluorobenzylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(piperidin-4-ylmethylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(tetrahydro-2*H*-pyran-4-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(1,4-diazepan-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(thiazolidin-3-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-(2-((5-oxo-4-(4-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)methanesulfonamide;

(*S*)-2-(1-cyclohexylethylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(cyclohexylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(1-methylpyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(1-isopropylpyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1-methylpiperidin-4-yl)methylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1-isopropylpiperidin-4-yl)methylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-((dimethylamino)methyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-methylthiazol-2-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(1-(methylsulfonyl)pyrrolidin-3-ylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(2-hydroxyethyl)piperazin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

ethyl 1-(5-oxo-4-(4-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)piperidine-4-carboxylate;

2-(4-(4-(2-hydroxyethyl)piperazine-1-carbonyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(4-(hydroxymethyl)piperidine-1-carbonyl)piperidin-1-yl)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*R*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*S*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*S*)-2-aminocyclohexylamino)-4-(2-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(2-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,4*R*)-4-aminocyclohexylamino)-4-(2-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-ethylpiperazin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(2-morpholinoethylamino)-4-(3(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(3-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(methylsulfonyl)piperazin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(morpholinoamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-acetyl piperazin-1-yl)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(2-hydroxy-1-phenylethylamino)-4-(3-(trifluoromethyl)phenylaminopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(2-hydroxy-1-phenylethylamino)-4-(3-(trifluoromethyl)phenylaminopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(1-hydroxy-3-phenylpropan-2-ylamino)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-2-(1-hydroxy-3-phenylpropan-2-yl amino)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

1-(5-oxo-4-(3-(trifluoromethyl)phenyl amino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)piperidine-4-carboxamide;

(*R*)-2,2,2-trifluoro-N-(1-(5-oxo-4-(3-(trifluoromethyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)pyrrolidin-3-yl)acetamide;

2-(4-(4-chlorophenyl)-4-hydroxy piperidin-1-yl)-4-(3-(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*S*)-2-(phenylsulfonyl)cyclohexyl amino)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*S*,2*R*)-2-aminocyclohexylamino)-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-thiomorpholino-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-sulfonylpyrido)-4-(3-(trifluoro methyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-morpholinopiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-((1*R*,2*S*)-2-(5-oxo-4-(3-(trifluoro methyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)cyclohexyl) acetamide;

N-((1*R*,4*R*)-4-(5-oxo-4-(3-(trifluoro methyl)phenylamino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)cyclohexyl) acetamide;

2-((1*R*,2*R*)-2-(dimethylamino)cyclohexyl amino)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3-bromophenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3-bromophenylamino)-2-(4-(dimethylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(3-bromophenylamino)-2-(4-(1-hydroxypropan-2-ylamino)piperidin-1-yl) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(4-(3-aminopyrrolidin-1-yl) piperidin-1-yl)-4-(3-bromophenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-4-(3-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3-bromophenylamino)-2-(3-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-4-(4-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-2-(3-aminopyrrolidin-1-yl)-4-(4-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(4-bromophenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(4-bromophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-4-(3-bromophenylamino)-2-(4-(1-hydroxypropan-2-ylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromophenylamino)-2-(4-(dimethylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(*m*-tolylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-4-(m-tolyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(3,5-bis(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(2-((1*R*, 2*S*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one with (2-((1*S*, 2*R*)-2-aminocyclohexylamino)-4-(3-(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3- *d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-morpholinopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5 bis(trifluoromethyl)phenyl amino)-2-((1*r*,4*r*)-4-hydroxycyclohexyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(2-aminobenzylamino)-4-(3,5-bis(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-methylpiperazin-1-yl)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-4-(3,5-bis(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*S*)-4-(3,5-bis(trifluoromethyl)phenylamino)-2-(pyrrolidin-3-ylamino)pyrido [4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(piperidin-4-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(1-methylpiperidin-4-ylamino)pyrido [4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(3,5-bis(trifluoromethyl) phenyl amino)-2-(1-methylpyrrolidin-3-ylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(dimethylamino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-yl) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(2-hydroxyethyl)piperazin-1-yl) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-4-(3,5-bis(trifluoromethyl)phenyl amino)-2-(3-hydroxypyrrolidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(3-hydroxyazetidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(2-hydroxyethyl)piperidin-1-yl) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-((1*r*,4*r*)-4-(4-(3,5-bis(trifluoromethyl) phenylamino)-5-oxo-5,6-dihydropyrido [4,3-*d*]pyrimidin-2-ylamino)cyclohexyl) acetamide;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(3-oxopiperazin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(piperazin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

methyl 1-(4-(3,5-bis(trifluoromethyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl)-4-hydroxy piperidine-4-carboxylate;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*, 4*R*)-4-aminocyclohexylamino)-4-(3,5-bis(trifluoromethyl)phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-bis(trifluoromethyl)phenylamino)-2-(4-(hydroxyimino)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(phenoxyphenylamino)-2-(pyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-4(4-(methylsulfonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-(2-((4-(4-(methylsulfonyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)methanesulfonamide;

2-(4-hydroxypiperidin-1-yl)-4-(4-(methyl sulfonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-(methylsulfonyl)phenylamino)-2-(4-morpholinopiperidin-1-yl)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-(methyl sulfonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

N-(2-((4-(4-(methylsulfonyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-yl amino)methyl)phenyl)cyclopropane sulfonamide;

N-methyl-*N*-(2-((4-(4-(methylsulfonyl)phenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)cyclopropanesulfonamide;

(*S*)-2-(3-aminopyrrolidin-1-yl)-4-(4-(methylsulfonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-(4-acetylpiperazin-1-yl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*S*)-4-(4-morpholinophenylamino)-2-(pyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-sulfonylphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-(4-acetylpiperazin-1-yl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-(5-oxo-2-(piperidin-4-ylmethyl amino)-5,6-dihydropyrido[4,3-*d*]pyrimidin-4-ylamino)phenyl) morpholine 4-oxide hydrochloride;

4-(4-morpholinophenylamino)-2-(piperidin-4-ylmethylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

N-methyl-*N*-(2-((4-(4-morpholinophenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)cyclopropanesulfonamide;

N-(2-((4-(4-morpholinophenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino)methyl)phenyl)cyclopropanesulfonamide;

N-(2-((4-(4-morpholinophenylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-2-ylamino) methyl)phenyl)methanesulfonamide;

2-(2-aminobenzylamino)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*S*)-2-aminocyclohexylamino)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-((1*R*,2*R*)-2-aminocyclohexylamino)-4-(benzo[*d*][1,3]dioxol-5-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3,4,5-trimethoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3,4,5-trimethoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,5-dimethylphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-methoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-yl)pyrido [4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one

4-(3-chloro-5-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-5-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethoxy)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidine-1-yl)-6-methyl-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

6-methyl-4-(phenylamino)-2-(3-(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

methyl 4-(6-methyl-2-morpholino-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-4-ylamino) benzoate;

6-methyl-2-(methylamino)-4-(4-(piperazine-1-carbonyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

methyl 4-(6-methyl-2-(methylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-4-ylamino) benzoate;

2-amino-6-methyl-4-(phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

4-(4-fluorobenzylamino)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

6-methyl-2-(methylamino)-4-(phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-methoxybenzylamino)-6-methyl-4-(phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxycyclohexylamino)-6-methyl-4-(phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-methoxyphenyl)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxyphenyl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-methoxyphenyl)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-aminophenyl)-6-methyl-2-(methylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

1-(4-fluorophenyl)-3-(4-(6-methyl-2-(methylamino)-5-oxo-5,6-dihydropyrido[4,3-*d*]pyrimidin-4-yl)phenyl)urea;

8-bromo-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido
[4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl) piperidin-1-yl)-4-(4-methoxy-3-
(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-chloro-2-(4-hydroxypiperidin-1-yl)-4-(3-
(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-
(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(3-
(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one
hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-bromo-3-
methylphenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

8-bromo-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)
phenylamino)pyrido [4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-
(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-chloro-2-(4-hydroxypiperidin-1-yl)-4-(3-
(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-
(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(3-
(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one
hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-bromo-3-methylphenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

8-bromo-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-methoxy-3-(trifluoromethyl) phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-chloro-2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-methoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(3-methoxy-5-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl) piperidin-1-yl)-4-(3-(trifluoromethyl)phenyl amino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

4-(3,4-dimethoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-4-methoxyphenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

8-bromo-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3,4-dimethoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-4-methoxyphenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-aminopiperidin-1-yl)-8-bromo-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-iodo-4-(4-phenoxyphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxy-4-(hydroxymethyl)piperidin-1-yl)-8-iodopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(4-chloro-3-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)-8-iodopyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-chloro-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

2-(4-hydroxypiperidin-1-yl)-8-iodo-4-(4-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(4-morpholino-3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-methoxy-3-(trifluoromethyl)phenylamino) pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;

(*R*)-2-(3-aminopyrrolidin-1-yl)-8-bromo-4-(4-chloro-3-(trifluoromethoxy)phenylamino) pyrido[4,3-*d*] pyrimidin-5(6*H*)-one hydrochloride;

4-(4-chloro-3-(trifluoromethoxy)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3-bromo-5-(trifluoromethyl)phenylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*] pyrimidin-5(6*H*)-one;

(*R*)-6-(3-aminopyrrolidin-1-yl)-4-iodo-8-(4-(trifluoromethyl)phenylamino)isoquinolin-1(2*H*)-one hydrochloride;

(*R*)-6-(3-aminopyrrolidin-1-yl)-4-bromo-8-(4-(trifluoromethyl)phenylamino)isoquinolin-1(2*H*)-one hydrochloride;

(*S*)-6-(3-aminopyrrolidin-1-yl)-4-bromo-8-(4-(trifluoromethyl)phenylamino)isoquinolin-1(2*H*)-one hydrochloride;

4-(2,3-dihydrobenzo[*b*][1,4]dioxin-6-ylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(naphthalen-2-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

2-(4-hydroxypiperidin-1-yl)-4-(quinolin-5-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

4-(3*H*-indol-2-ylamino)-2-(4-hydroxypiperidin-1-yl)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one; and

2-(4-hydroxypiperidin-1-yl)-4-(4-phenoxyphenylamino)-8-phenylpyrido[4,3-*d*]pyrimidin-5(6*H*)-one;

or a pharmaceutically acceptable salt thereof.

57. A pharmaceutical formulation comprising a compound of Claim 1, or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier, diluent or excipient.
58. A method of treating a protein kinase-mediated disease in a subject in need thereof, comprising administering to said subject a therapeutically effective amount of a compound of Claim 1 or a pharmaceutically acceptable salt thereof, wherein said protein kinase-mediated disease is selected from the group of consisting of psoriasis, rheumatoid arthritis, lymphoma, osteosarcoma, melanoma, breast cancer, renal cancer, prostate cancer, colorectal cancer, thyroid cancer, ovarian cancer, pancreatic cancer, neuronal cancer, lung cancer, uterine cancer, and gastrointestinal cancer.
59. The method of Claim 59, wherein said compound of Claim 1 is administered singly or in combination with one or more additional therapeutic agents.
60. The method of Claim 60, wherein said compound or salt is administered via intravenous administration, subcutaneous administration, inhalation, oral administration, rectal administration, parenteral, intravitreal administration, intramuscular administration, intranasal administration, dermal administration, topical administration, otic administration, ophthalmic administration, buccal administration, tracheal administration, bronchial administration, or sublingual administration.
61. A method of inhibiting growth of cancer cells, comprising contacting the cancer cells with a compound of Claim 1 or a pharmaceutically acceptable salt thereof, wherein the cancer cells are cells from a cancer selected from

acute lymphoblastic leukemia, acute promyelocytic leukemia, acute myeloid leukemia, chronic myelogenous leukemia, lung cancer, colon cancer, brain cancer, melanoma, ovarian cancer, renal cancer, prostate cancer, or breast cancer.

62. A method of treating cancer in a subject in need thereof, comprising administering to the subject an effective amount of a compound of Claim 1 or a pharmaceutically acceptable salt thereof, wherein said cancer is acute lymphoblastic leukemia, acute promyelocytic leukemia, chronic myelogenous leukemia, lung cancer, colon cancer, brain cancer, melanoma, ovarian cancer, renal cancer, prostate cancer, or breast cancer.
63. The method of claim 64, wherein said compound is selected from the group consisting of:
2-(4-hydroxypiperidin-1-yl)-4-(3-(trifluoromethyl)phenylamino)pyrido[4,3-*d*]pyrimidine-5(6*H*)-one;
(*S*)-2-(pyrrolidin-3-ylamino)-4-(4-trifluoromethylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one;
(*S*)-4-(4-morpholinophenylamino)-2-(pyrrolidin-3-ylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one hydrochloride;
2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-sulfonylphenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one; and
2-(4-(hydroxymethyl)piperidin-1-yl)-4-(4-morpholinophenylamino)pyrido[4,3-*d*]pyrimidin-5(6*H*)-one.