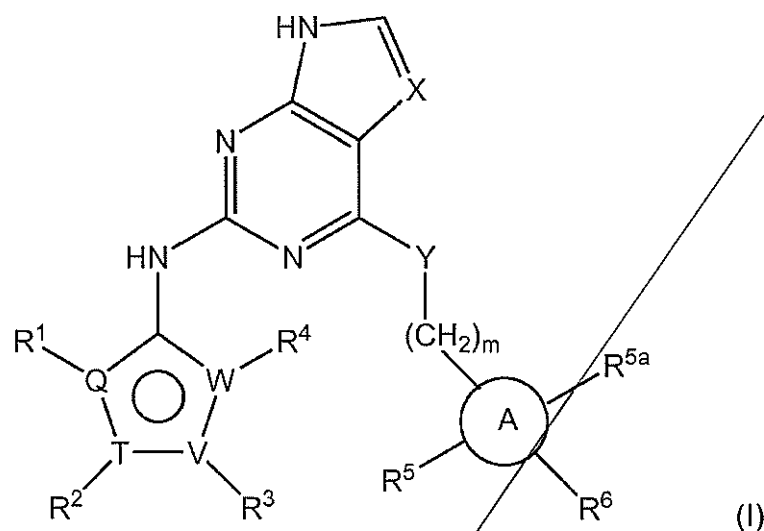


What is claimed is:

1. A compound of formula (I):



wherein

X is N or CR⁷;

Y is absent, O, S or NR⁸;

Q, T, V and W are each independently C or N, provided that at least two of Q, T, V and W are N and at least one of Q, T, V and W is C, and provided that when Q and T are N, at least one of R¹ and R² is absent, and further provided that when T and V are N, at least one of R² and R³ is absent;

R¹ and R⁴ are each independently absent, hydrogen, cyano, difluoromethyl, trifluoromethyl, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, -N(R⁹)(R¹⁰), C₃-C₅ cycloalkyl or 4-6 membered heterocycloalkyl, wherein the C₁-C₆ alkyl may be optionally substituted by halogen, hydroxy, C₁-C₆ alkoxy or N(R¹¹)(R¹²);

R² and R³ are each independently absent, hydrogen, C₁-C₆ alkyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₃-C₇ cycloalkyl or 3-7 membered heterocycloalkyl, wherein the C₁-C₆ alkyl and C₁-C₆ alkoxy in R² and R³ are each independently optionally substituted by one or more R¹³ groups, and further wherein the C₃-C₇ cycloalkyl and the 3-7 membered heterocycloalkyl in R² and R³ are each independently optionally substituted by one or more R¹⁴ groups; or

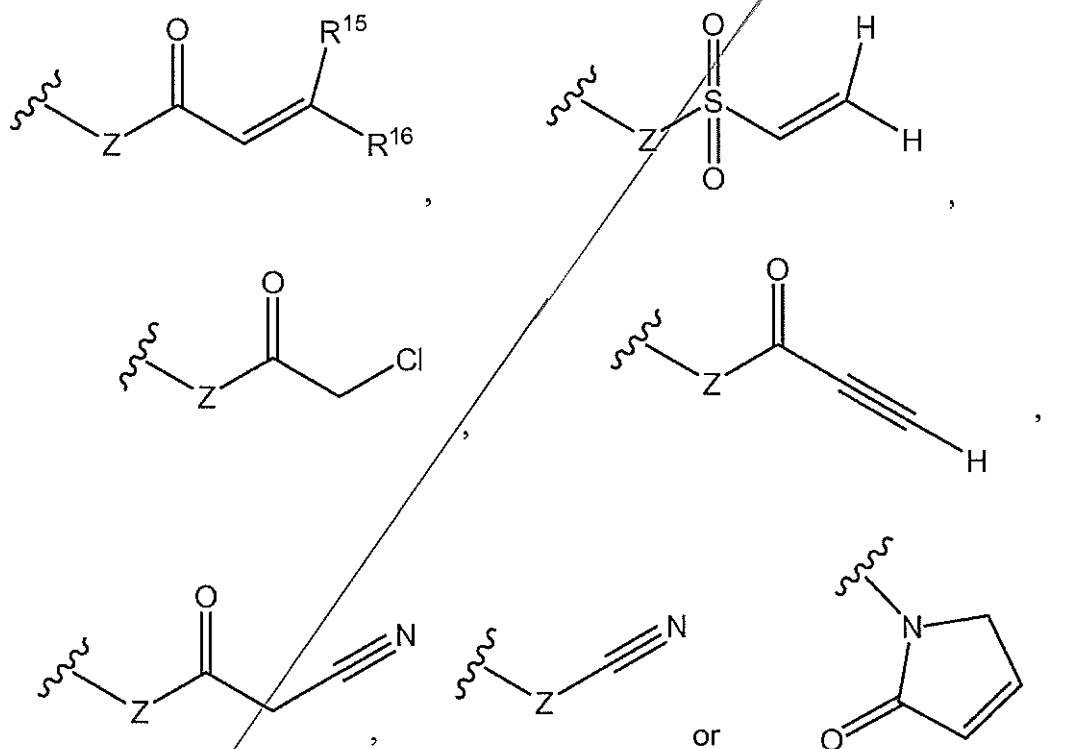
R¹ and R² or R² and R³ may combine to form a C₅-C₇ cycloalkyl ring or a 5-7 membered heterocycloalkyl ring, wherein the C₅-C₇ cycloalkyl ring and the 5-7

membered heterocycloalkyl ring are each independently optionally substituted by one or more R^{13} groups;

ring A is absent, C_3 - C_{10} cycloalkyl, 3-10 membered heterocycloalkyl, C_5 - C_{10} aryl or 5-12 membered heteroaryl;

R^5 and R^{5a} are each independently absent, halogen, cyano, hydroxy, difluoromethyl, trifluoromethyl, C_1 - C_3 alkyl, C_1 - C_3 alkoxy, C_3 - C_5 cycloalkyl or 4-6 membered heteroaryl, wherein the C_1 - C_3 alkyl is optionally substituted by hydroxy, difluoromethyl, trifluoromethyl, C_1 - C_3 alkoxy or C_3 - C_5 cycloalkyl;

R^6 is



Z is absent when the attachment point of R^6 on ring A is a nitrogen atom, and Z is $-NR^{17}$ when ring A is absent or when the attachment point of R^6 on ring A is a carbon atom;

R^7 is hydrogen, halogen, cyano, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl or 4-6 membered heteroaryl, wherein the C_1 - C_6 alkyl may be optionally substituted by hydroxy or C_1 - C_3 alkoxy, and further wherein the 4-6 membered heteroaryl may be optionally substituted by C_1 - C_3 alkyl;

R^8 is hydrogen or C_1 - C_3 alkyl;

R^9 and R^{10} are each independently hydrogen or C_1 - C_6 alkyl; or R^9 and R^{10} together with the nitrogen to which they are attached, may combine to form a 4-7 membered ring, when R^9 and R^{10} are each C_1 - C_3 alkyl, wherein the 4-7 membered ring is optionally substituted by one or more R^{14} groups;

R^{11} and R^{12} are each independently hydrogen or C_1 - C_3 alkyl;

each R^{13} is independently halogen, cyano, hydroxy, C_1 - C_6 alkoxy, $-N(R^9)(R^{10})$, $-CON(R^9)(R^{10})$ or 3-7 membered heterocycloalkyl, wherein the 3-7 membered heterocycloalkyl in R^{13} is optionally substituted by one or more R^{14} groups;

each R^{14} is independently halogen, C_1 - C_3 alkyl, hydroxy, C_1 - C_6 alkoxy, $-NH_2$, $-NHCH_3$ or $N(CH_3)_2$;

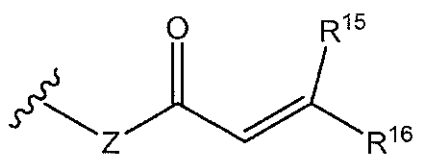
R^{15} and R^{16} are each independently hydrogen or C_1 - C_6 alkyl, wherein the C_1 - C_6 alkyl of one of R^{15} and R^{16} is optionally substituted by $-N(R^9)(R^{10})$;

R^{17} is hydrogen or C_1 - C_3 alkyl; and

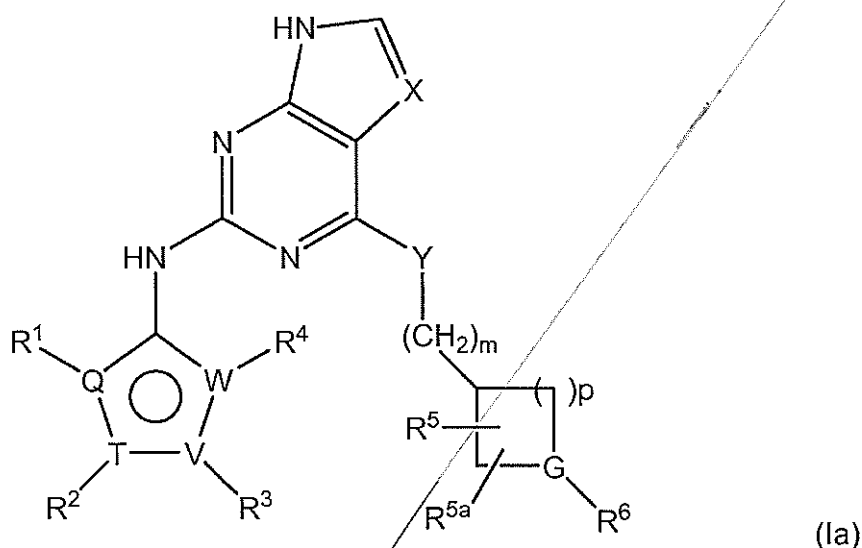
m is 0, 1 or 2, provided that when ring A is absent, m is 2; or

a pharmaceutically acceptable salt thereof.

2. The compound or salt of claim 1, wherein X is CR^7 .
3. The compound or salt of claim 1, wherein Y is O.
4. The compound or salt of claim 1, wherein Y is NR^8 .
5. The compound or salt of claim 2, wherein R^7 is hydrogen, halogen, cyano or 4-6 membered heteroaryl.
6. The compound or salt of claim 2, wherein R^7 is hydrogen.
7. The compound or salt of claim 5, wherein the halogen is fluorine or chlorine.
8. The compound or salt of claim 2, wherein R^7 is cyano.
9. The compound or salt of claim 2, wherein R^7 is 4-6 membered heteroaryl optionally substituted by C_1 - C_3 alkyl.
10. The compound or salt of any of claims 1-9, wherein m is 0.
11. The compound or salt of any of claims 1-9, wherein m is 1.
12. The compound or salt of any of claims 1-11, wherein Q and T are N.
13. The compound or salt of any of claims 1-11, wherein T and V are N.
14. The compound or salt of any of claims 1-13, wherein R^6 is



15. The compound or salt of any of claims 1-14, wherein ring A is phenyl.
16. The compound or salt of any of claims 1-14, having formula (Ia):



wherein

G is CH or N; and

p is 1 or 2.

17. The compound or salt of claim 16, wherein G is CH.
18. The compound or salt of claim 16, wherein G is N.
19. The compound or salt of claim 16, wherein p is 1.
20. The compound or salt of claim 16, wherein p is 2.
21. A compound, which is selected from the group consisting of:
- 1-[(3*R*,4*R*)-3-[(5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)oxy)methyl]-4-methoxypyrrolidin-1-yl]prop-2-en-1-one;
- N*-[3-[(5-(1-methyl-1*H*-pyrazol-4-yl)-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)oxy)phenyl]prop-2-enamide;
- N*-[*trans*-3-[(2-[(1,3-dimethyl-1*H*-pyrazol-4-yl)amino]-5-(pyridin-2-yl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)oxy)cyclobutyl]-*N*-methylprop-2-enamide;
- 1-[(3*S*,4*R*)-3-[(5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)amino]-4-(1*H*-1,2,3-triazol-1-yl)pyrrolidin-1-yl]prop-2-en-1-one;

1-[(3*R*,4*S*)-3-({5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)amino)-4-(trifluoromethyl)pyrrolidin-1-yl]prop-2-en-1-one;

N-methyl-*N*-[*trans*-3-({2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-5-(pyridin-2-yl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl}oxy)cyclobutyl]prop-2-enamide;

1-[(3*R*,4*R*)-3-({5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl}oxy)methyl]-4-fluoropyrrolidin-1-yl]prop-2-en-1-one; and

1-[(3*R*,4*R*)-3-methoxy-4-({2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-5-(pyridin-2-yl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl}oxy)methyl]pyrrolidin-1-yl]prop-2-en-1-one,

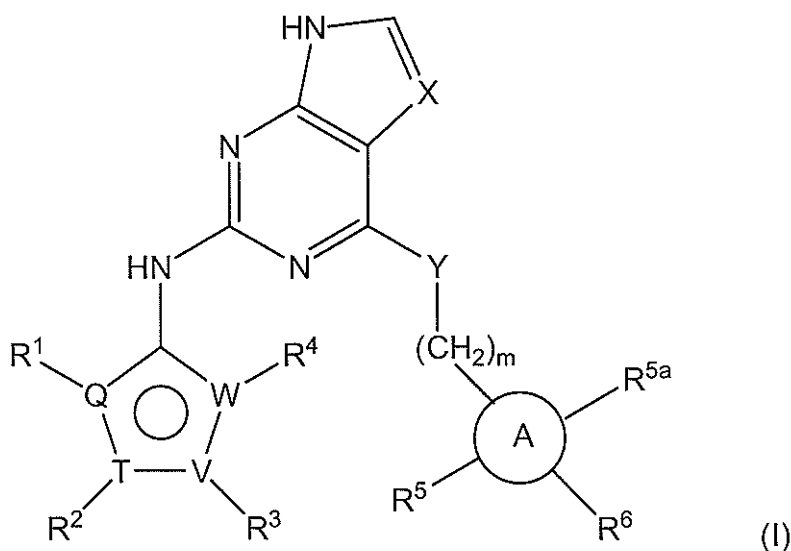
or a pharmaceutically acceptable salt thereof.

22. A pharmaceutical composition comprising a compound of any of the preceding claims, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier or diluent.

23. A method of treating abnormal cell growth in a mammal comprising administering to the mammal an amount of a compound of any of claims 1-21, or a pharmaceutically acceptable salt thereof, that is effective in treating abnormal cell growth.

What is claimed is:

1. A compound of formula (I):



wherein

X is N or CR⁷;

Y is absent, O, S or NR⁸;

Q, T, V and W are each independently C or N, provided that at least two of Q, T, V and W are N and at least one of Q, T, V and W is C, and provided that when Q and T are N, at least one of R¹ and R² is absent, and further provided that when T and V are N, at least one of R² and R³ is absent;

R¹ and R⁴ are each independently absent, hydrogen, cyano, difluoromethyl, trifluoromethyl, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, -N(R⁹)(R¹⁰), C₃-C₅ cycloalkyl or 4-6 membered heterocycloalkyl, wherein the C₁-C₆ alkyl may be optionally substituted by halogen, hydroxy, C₁-C₆ alkoxy or N(R¹¹)(R¹²);

R² and R³ are each independently absent, hydrogen, C₁-C₆ alkyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₃-C₇ cycloalkyl or 3-7 membered heterocycloalkyl, wherein the C₁-C₆ alkyl and C₁-C₆ alkoxy in R² and R³ are each independently optionally substituted by one or more R¹³ groups, and further wherein the C₃-C₇ cycloalkyl and the 3-7 membered heterocycloalkyl in R² and R³ are each independently optionally substituted by one or more R¹⁴ groups; or

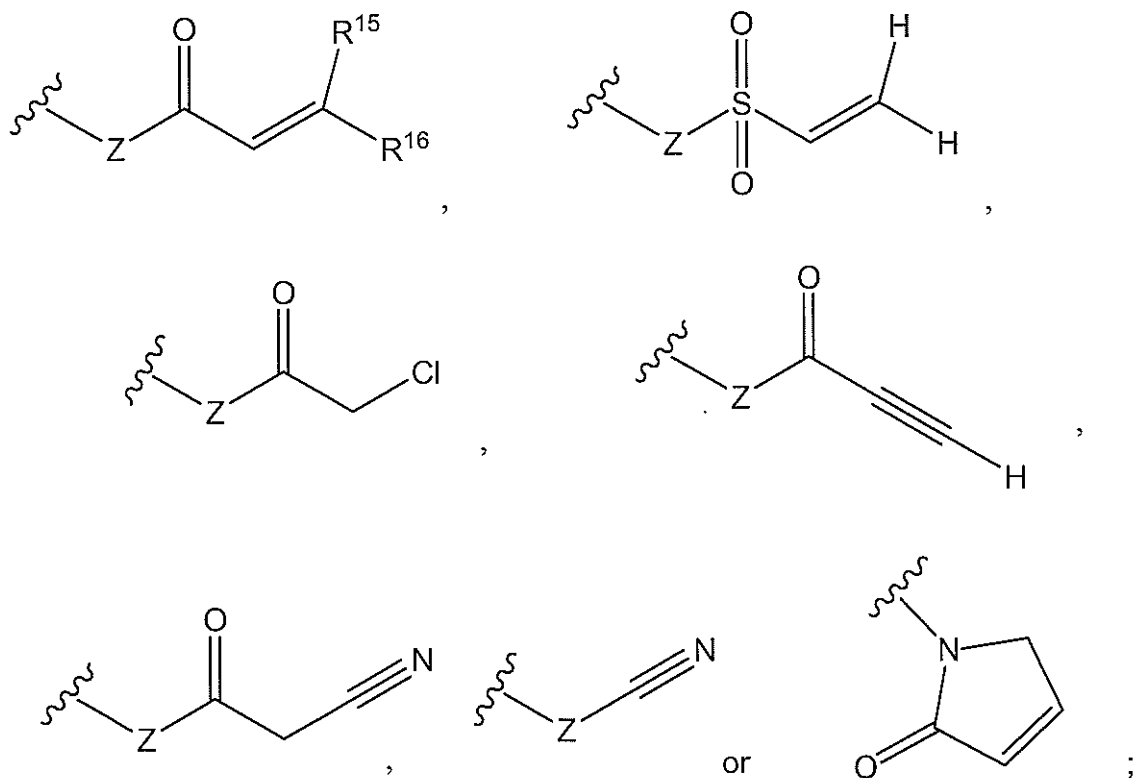
R¹ and R² or R² and R³ may combine to form a C₅-C₇ cycloalkyl ring or a 5-7 membered heterocycloalkyl ring, wherein the C₅-C₇ cycloalkyl ring and the 5-7

membered heterocycloalkyl ring are each independently optionally substituted by one or more R^{13} groups;

ring A is absent, C_3 - C_{10} cycloalkyl, 3-10 membered heterocycloalkyl, C_5 - C_{10} aryl or 5-12 membered heteroaryl;

R^5 and R^{5a} are each independently absent, halogen, cyano, hydroxy, difluoromethyl, trifluoromethyl, C_1 - C_3 alkyl, C_1 - C_3 alkoxy, C_3 - C_5 cycloalkyl or 4-6 membered heteroaryl, wherein the C_1 - C_3 alkyl is optionally substituted by hydroxy, difluoromethyl, trifluoromethyl, C_1 - C_3 alkoxy or C_3 - C_5 cycloalkyl;

R^6 is



Z is absent when the attachment point of R^6 on ring A is a nitrogen atom, and Z is $-NR^{17}$ - when ring A is absent or when the attachment point of R^6 on ring A is a carbon atom;

R^7 is hydrogen, halogen, cyano, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl or 4-6 membered heteroaryl, wherein the C_1 - C_6 alkyl may be optionally substituted by hydroxy or C_1 - C_3 alkoxy, and further wherein the 4-6 membered heteroaryl may be optionally substituted by C_1 - C_3 alkyl;

R^8 is hydrogen or C_1 - C_3 alkyl;

R^9 and R^{10} are each independently hydrogen or C_1 - C_6 alkyl; or R^9 and R^{10} together with the nitrogen to which they are attached, may combine to form a 4-7

membered ring, when R^9 and R^{10} are each C_1 - C_3 alkyl, wherein the 4-7 membered ring is optionally substituted by one or more R^{14} groups;

R^{11} and R^{12} are each independently hydrogen or C_1 - C_3 alkyl;

each R^{13} is independently halogen, cyano, hydroxy, C_1 - C_6 alkoxy, $-N(R^9)(R^{10})$, $-CON(R^9)(R^{10})$ or 3-7 membered heterocycloalkyl, wherein the 3-7 membered heterocycloalkyl in R^{13} is optionally substituted by one or more R^{14} groups;

each R^{14} is independently halogen, C_1 - C_3 alkyl, hydroxy, C_1 - C_6 alkoxy, $-NH_2$, $-NHCH_3$ or $N(CH_3)_2$;

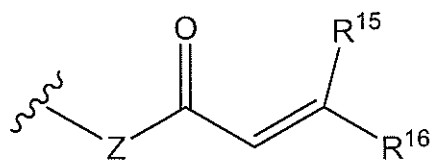
R^{15} and R^{16} are each independently hydrogen or C_1 - C_6 alkyl, wherein the C_1 - C_6 alkyl of one of R^{15} and R^{16} is optionally substituted by $-N(R^9)(R^{10})$;

R^{17} is hydrogen or C_1 - C_3 alkyl; and

m is 0, 1 or 2, provided that when ring A is absent, m is 2; or

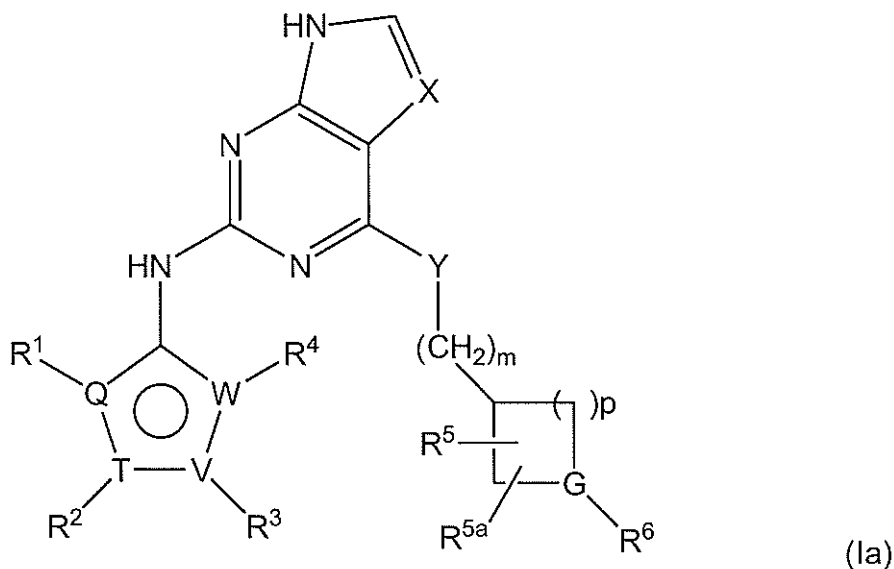
a pharmaceutically acceptable salt thereof.

2. The compound or salt of claim 1, wherein X is CR^7 .
3. The compound or salt of claim 1, wherein Y is O.
4. The compound or salt of claim 1, wherein Y is NR^8 .
5. The compound or salt of claim 2, wherein R^7 is hydrogen, halogen, cyano or 4-6 membered heteroaryl.
6. The compound or salt of claim 2, wherein R^7 is hydrogen.
7. The compound or salt of claim 5, wherein the halogen is fluorine or chlorine.
8. The compound or salt of claim 2, wherein R^7 is cyano.
9. The compound or salt of claim 2, wherein R^7 is 4-6 membered heteroaryl optionally substituted by C_1 - C_3 alkyl.
10. The compound or salt of any of claims 1-9, wherein m is 0.
11. The compound or salt of any of claims 1-9, wherein m is 1.
12. The compound or salt of any of claims 1-11, wherein Q and T are N.
13. The compound or salt of any of claims 1-11, wherein T and V are N.
14. The compound or salt of any of claims 1-13, wherein R^6 is



15. The compound or salt of any of claims 1-14, wherein ring A is phenyl.

16. The compound or salt of any of claims 1-14, having formula (Ia):



wherein

G is CH or N; and

p is 1 or 2.

17. The compound or salt of claim 16, wherein G is CH.

18. The compound or salt of claim 16, wherein G is N.

19. The compound or salt of claim 16, wherein p is 1.

20. The compound or salt of claim 16, wherein p is 2.

21. A compound, which is selected from the group consisting of:

1-((3*R*,4*R*)-3-[(5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl]oxy)methyl)-4-methoxypyrrolidin-1-yl]prop-2-en-1-one;

N-[3-((5-(1-methyl-1*H*-pyrazol-4-yl)-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl]oxy)phenyl]prop-2-enamide;

N-[*trans*-3-((2-[(1,3-dimethyl-1*H*-pyrazol-4-yl)amino]-5-(pyridin-2-yl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl]oxy)cyclobutyl]-*N*-methylprop-2-enamide;

1-[(3*S*,4*R*)-3-((5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)amino)-4-(1*H*-1,2,3-triazol-1-yl)pyrrolidin-1-yl]prop-2-en-1-one;

1-[(3*R*,4*S*)-3-((5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)amino)-4-(trifluoromethyl)pyrrolidin-1-yl]prop-2-en-1-one;

N-methyl-*N*-[*trans*-3-((2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-5-(pyridin-2-yl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl]oxy)cyclobutyl]prop-2-enamide;

1-((3*R*,4*R*)-3-[(5-chloro-2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl]oxy)methyl)-4-fluoropyrrolidin-1-yl]prop-2-en-1-one; and

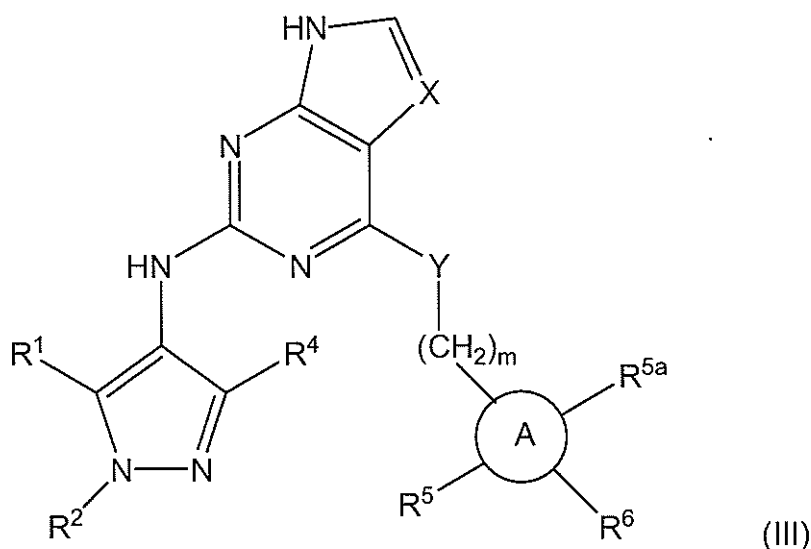
1-((3*R*,4*R*)-3-methoxy-4-[(2-[(1-methyl-1*H*-pyrazol-4-yl)amino]-5-(pyridin-2-yl)-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-yl)oxy)methyl]pyrrolidin-1-yl)prop-2-en-1-one,
or a pharmaceutically acceptable salt thereof.

22. A pharmaceutical composition comprising a compound of any of the preceding claims, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier or diluent.

23. A compound of any of claims 1-21, or a pharmaceutically acceptable salt thereof, that is effective in treating abnormal cell growth, for use in the treatment of abnormal cell growth in a mammal.

24. Use of a compound of any of claims 1-21, or a pharmaceutically acceptable salt thereof, that is effective in treating abnormal cell growth, in the manufacture of a medicament for the treatment of abnormal cell growth in a mammal.

25. A compound of formula (III):



wherein

X is N or CR⁷;

Y is absent, O, S or NR⁸;

R¹ and R⁴ are each independently hydrogen, cyano, difluoromethyl, trifluoromethyl, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, -N(R⁹)(R¹⁰), C₃-C₅ cycloalkyl, or 4-6 membered heterocycloalkyl, wherein the C₁-C₆ alkyl may be optionally substituted by halogen, hydroxy, C₁-C₆ alkoxy, or N(R¹¹)(R¹²);

R² is C₁-C₆ alkyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, C₃-C₇ cycloalkyl or 3-7 membered heterocycloalkyl, wherein the C₁-C₆ alkyl and C₁-C₆ alkoxy in R² is

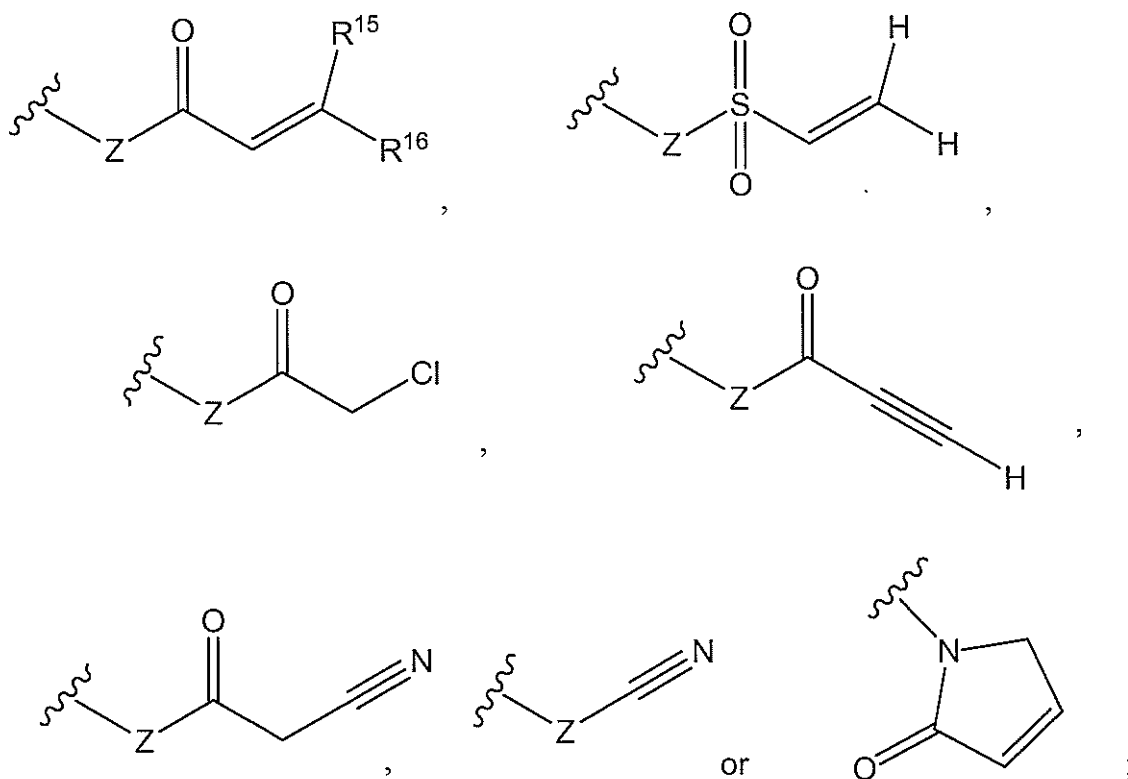
optionally substituted by one or more R^{13} groups, and further wherein the C_3 - C_7 cycloalkyl and the 3-7 membered heterocycloalkyl in R^2 is optionally substituted by one or more R^{14} groups; or

R^1 and R^2 may combine to form a C_5 - C_7 cycloalkyl ring or a 5-7 membered heterocycloalkyl ring, wherein the C_5 - C_7 cycloalkyl ring and the 5-7 membered heterocycloalkyl ring are optionally substituted by one or more R^{13} groups;

ring A is absent, C_3 - C_{10} cycloalkyl, 3-10 membered heterocycloalkyl, C_5 - C_{10} aryl or 5-12 membered heteroaryl;

R^5 and R^{5a} are each independently absent, halogen, cyano, hydroxy, difluoromethyl, trifluoromethyl, C_1 - C_3 alkyl, C_1 - C_3 alkoxy, C_3 - C_5 cycloalkyl or C_3 - C_5 heteroaryl, wherein the C_1 - C_3 alkyl is optionally substituted by hydroxy, difluoromethyl, trifluoromethyl, C_1 - C_3 alkoxy or C_3 - C_5 cycloalkyl;

R^6 is



Z is absent when the attachment point of R^6 on ring A is a nitrogen atom, and Z is $-NR^{17}-$ when ring A is absent or when the attachment point of R^6 on ring A is a carbon atom;

R^7 is hydrogen, halogen, cyano, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, or 4-6 membered heteroaryl, wherein the C_1 - C_6 alkyl may be optionally substituted by

hydroxy or C₁-C₃ alkoxy, and further wherein the 4-6 membered heteroaryl may be optionally substituted by C₁-C₃ alkyl;

R⁸ is hydrogen or C₁-C₃ alkyl;

R⁹ and R¹⁰ are each independently hydrogen or C₁-C₆ alkyl; or R⁹ and R¹⁰ together with the nitrogen to which they are attached, may combine to form a 4-7 membered ring, when R⁹ and R¹⁰ are each C₁-C₃ alkyl, wherein the 4-7 membered ring is optionally substituted by one or more R¹⁴ groups;

R¹¹ and R¹² are each independently hydrogen or C₁-C₃ alkyl;

each R¹³ is independently halogen, cyano, hydroxy, C₁-C₆ alkoxy, -N(R⁹)(R¹⁰), -CON(R⁹)(R¹⁰), 3-7 membered heterocycloalkyl, wherein the 3-7 membered heterocycloalkyl in R¹³ is optionally substituted by one or more R¹⁴ groups;

each R¹⁴ is independently halogen, C₁-C₃ alkyl, hydroxy, C₁-C₆ alkoxy, -NH₂, -NHCH₃, or N(CH₃)₂;

R¹⁵ and R¹⁶ are each independently hydrogen or C₁-C₆ alkyl, wherein the C₁-C₆ alkyl of one of R¹⁵ and R¹⁶ is optionally substituted by -N(R⁹)(R¹⁰);

R¹⁷ is hydrogen or C₁-C₆ alkyl; and

m is 0, 1 or 2, provided that when ring A is absent, m is 2; or
a pharmaceutically acceptable salt thereof.

26. The compound or salt of claim 25, wherein X is CR⁷.

27. The compound or salt of claim 25, wherein Y is O.

28. The compound or salt of claim 26, wherein R⁷ is hydrogen, halogen, cyano or 4-6 membered heteroaryl.

29. The compound or salt of claim 26, wherein R⁷ is halogen.

30. The compound or salt of claim 29, wherein the halogen is chlorine.

31. The compound or salt of claim 25, wherein m is 0.

32. The compound or salt of claim 25, wherein m is 1.

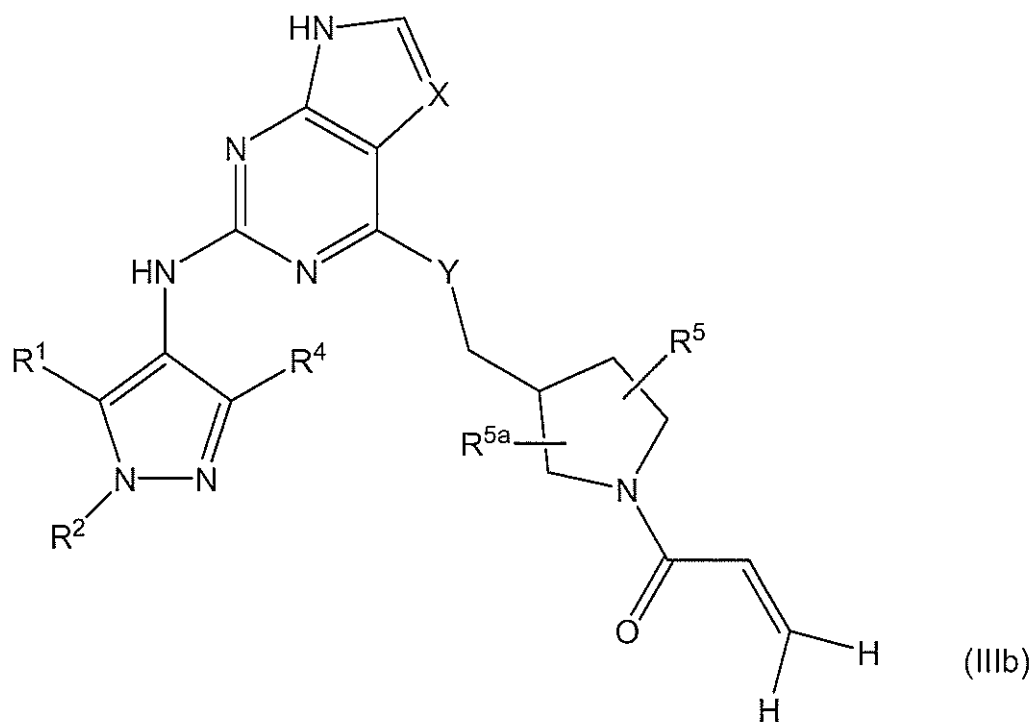
33. The compound or salt of claim 25, wherein R¹ is hydrogen.

34. The compound or salt of claim 25, wherein R² is C₁-C₄ alkyl or C₃-C₄ cycloalkyl.

35. The compound or salt of claim 25, wherein R² is methyl.

36. The compound or salt of claim 25, wherein R⁴ is hydrogen.

37. The compound or salt of claim 25, having formula (IIIb):

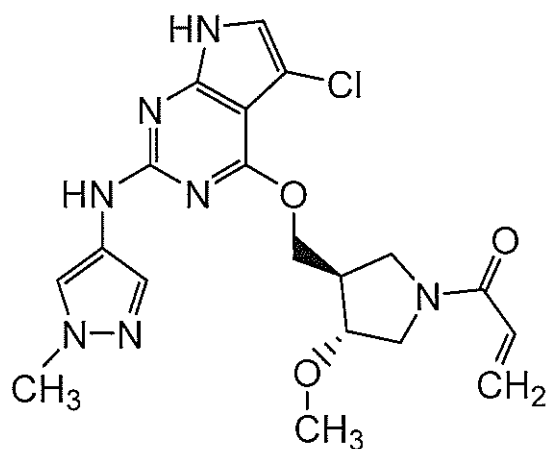


38. The compound or salt of claim 37, wherein R^5 and R^{5a} are each independently absent, hydroxy, difluoromethyl, trifluoromethyl, C_1 - C_3 alkyl, C_1 - C_3 alkoxy, cyclopropyl, $-(CH_2)-OCH_3$ or $-(CH_2)$ -trifluoromethyl.

39. The compound or salt of claim 37, wherein R^5 and R^{5a} are absent.

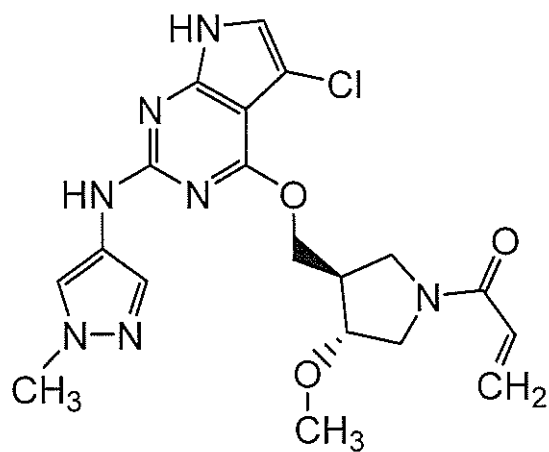
40. The compound or salt of claim 37, wherein R^{5a} is absent.

41. A compound, which is



or a pharmaceutically acceptable salt thereof.

42. A pharmaceutical composition comprising a compound, which is



or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier or diluent.