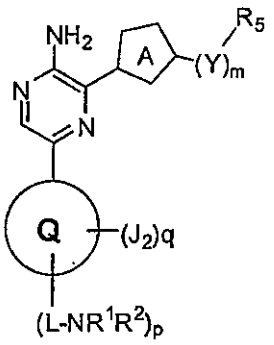
## CLAIMS

1. A compound of formula **IA:**

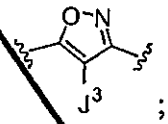


**IA**

or a pharmaceutically acceptable salt thereof; wherein

Y is a $C_1$-$C_6$ aliphatic chain wherein one methylene unit of the aliphatic chain are optionally replaced with $NR^0$ or C(O) ;

Ring A is



;

$J^3$ is H or $C_{1-4}$alkyl wherein 1 methylene unit of the alkyl group can optionally be replaced with O, NH, N($C_{1-4}$alkyl), or S and optionally substituted with 1-3 halo;

Q is phenyl or pyridyl substituted in the ortho position, the para position, or in both the ortho and the para position;

$R^5$ is a 3-7 membered monocyclic fully saturated, partially unsaturated, or aromatic ring containing 0-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; an 8-10 membered bicyclic fully saturated, partially unsaturated, or aromatic ring containing 0-6 heteroatoms independently selected from nitrogen, oxygen, or sulfur; $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is a $C_{1-4}$alkyl chain wherein up to two methylene units of the alkyl chain are optionally replaced with O, $NR^6$, S, –C(O)–, –SO–, or $–SO_2–$;

$R^0$ is H or $C_1$-$C_6$alkyl wherein one methylene unit of the alkyl chain can be optionally replaced with O, NH, N($C_{1-4}$alkyl), or S;

$R^1$ is H or $C_1$-$C_6$alkyl;

$R^2$ is H, $C_1$-$C_6$alkyl, –($C_2$-$C_6$alkyl)–Z or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is $-(X)_t-CN$, $C_1$-$C_6$alkyl, or $-(X)_r-Z$;

X is $C_1$-$C_4$alkyl;

each t, r and m is independently 0 or 1;

Z is $-NR^3R^4$;

$R^3$ is H or $C_1$-$C_2$alkyl;

$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said ring is optionally substituted with one occurrence of $J^Z$;

$R^6$ is H, or $C_1$-$C_6$alkyl;

$J^Z$ is independently $NH_2$, $NH(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}aliphatic)$, $NO_2$, CN, $CO_2H$, $CO(C_{1-4}aliphatic)$, $CO_2(C_{1-4}aliphatic)$, $O(haloC_{1-4}aliphatic)$, or $haloC_{1-4}aliphatic$;

$J^5$ is halo, oxo, CN, $NO_2$, $X^1$-R, or $-(X^1)_p$-$Q^4$;

$X^1$ is $C_{1-10}$aliphatic; wherein 1-3 methylene units of said $C_{1-10}$aliphatic are optionally replaced with –NR'–, -O-, -S-, C(=NR'), C(O), $S(O)_2$, or S(O); wherein $X^1$ is optionally and independently substituted with 1-4 occurrences of $NH_2$, $NH(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}aliphatic)$, $NO_2$, CN, $CO_2H$, $CO_2(C_{1-4}aliphatic)$, $C(O)NH_2$, $C(O)NH(C_{1-4}aliphatic)$, $C(O)N(C_{1-4}aliphatic)_2$, $SO(C_{1-4}aliphatic)$, $SO_2(C_{1-4}aliphatic)$, $SO_2NH(C_{1-4}aliphatic)$, $SO_2NH(C_{1-4}aliphatic)$, $NHC(O)(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)C(O)(C_{1-4}aliphatic)$, wherein said $C_{1-4}$aliphatic is optionally substituted with 1-3 occurrences of halo;

$Q^4$ is a 3-8 membered saturated or unsaturated monocyclic ring having 0-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 8-10 membered saturated or unsaturated bicyclic ring having 0-6 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each $Q^4$ is optionally substituted with 1-5 $J^{Q4}$;

$J^{Q4}$ is halo, CN, or $C_{1-4}$alkyl wherein up to 2 methylene units are optionally replaced with O, NR*, S, C(O), S(O), or $S(O)_2$;

R is H or $C_{1-4}$alkyl wherein said $C_{1-4}$alkyl is optionally substituted with 1-4 halo;

$J^2$ is halo; CN; a 5-6 membered aromatic or nonaromatic monocyclic ring having 0-3 heteroatoms selected from oxygen, nitrogen, or sulfur; or a $C_{1-10}$aliphatic group wherein up to 2 methylene units are optionally replaced with O, NR", C(O), S, S(O), or $S(O)_2$; wherein said $C_{1-10}$aliphatic group is optionally substituted with 1-3 halo or CN; and said monocyclic ring is optionally substituted with 1-3 occurences of halo; CN; a $C_{3-6}$cycloalkyl; a 3-7 membered heterocyclyl containing 0-2 heteroatoms selected from oxygen, nitrogen, or sulfur; or a $C_{1-4}$alkyl wherein up to one methylene unit of the alkyl chain is optionally replaced with O, NR", or S; and wherein said $C_{1-4}$alkyl is optionally substituted with 1-3 halo;

q is 0, 1, or 2;

p is 0 or 1;

R', R", and R* are each independently H, $C_{1-4}$alkyl, or is absent; wherein said $C_{1-4}$alkyl is optionally substituted with 1-4 halo.

2. The compound of claim 1 or claim 2, wherein $J^3$ is H.

3. The compound of claim 2, wherein

Y is NH;

$R^5$ is 5-6 membered monocyclic aryl or heteroaryl ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, $R^5$ is optionally fused to a 5-6 membered aromatic ring containing 0-2 heteroatoms selected from N, O, or S; each $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is –C(O)– or $–SO_2–$;

$R^1$ is H, or $C_1$-$C_6$alkyl;

$R^2$ is –($C_2$-$C_6$alkyl)–Z or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is $-(X)_t–CN$, $C_1$-$C_6$alkyl or $-(X)_t–Z$;

$R^3$ is H or $C_1$-$C_2$alkyl;

$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said ring is optionally substituted with one occurrence of $J^Z$;

$J^5$ is halogen, $NO_2$, CN, O(halo$C_{1-4}$aliphatic), halo$C_{1-4}$aliphatic, or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with C(O), O, or NR'; and

$J^2$ is halo, $C_1$-$C_2$alkyl optionally substituted with 1-3 fluoro, or CN.

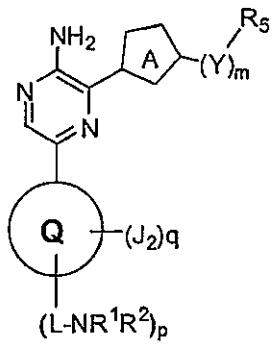
4. The compound of claim 2, wherein L is –C(O)–, m is 0, and $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms.

5. The compound of claim 4, wherein said heterocyclyl is pyrrolidinyl, piperidinyl, piperazinyl, azepanyl, or 1,4-diazepanyl.

6. The compound of any one of claims 1-5, wherein m is 0, q is 0, and –L–$NR^1R^2$ is C(O)pyrrolidinyl, C(O)piperidinyl, C(O)piperazinyl, C(O)azepanyl, C(O) 1,4-diazepanyl, C(O)NH-piperidinyl, C(O)NH$CH_2CH_2$-pyrrolidinyl, C(O)NH$CH_2CH_2$-piperidinyl, CON($CH_3$)$CH_2CH_2N(CH_3)_2$, wherein said pyrrolidinyl, piperidinyl, piperazinyl, azepanyl or 1,4-diazepanyl is optionally substituted with $C_{1-4}$alkyl or N($C_{1-4}$alkyl)$_2$.

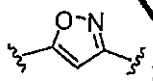
7. The compound of any one of claims 1-6, wherein $J^2$ is halo, CN, phenyl, oxazolyl, or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with O, NR", C(O), S, S(O), or $S(O)_2$; said $C_{1-6}$aliphatic group is optionally substituted with 1-3 fluoro or CN.

8. The compound of claim 2 having Formula IIA:



**IIA**

wherein

Ring A is ;

Y is a $C_1$-$C_4$alkyl chain wherein one methylene unit of the alkyl chain is optionally replaced with $-NR^0-$;

Q is phenyl or pyridyl substituted in the ortho position, the para position, or in both the ortho and the para position;

$R^5$ is 5-6 membered monocyclic aryl or heteroaryl ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, $R^5$ is optionally fused to a 5-6 membered aromatic ring containing 0-2 heteroatoms selected from N, O, or S; each $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is $-C(O)-$ or $-SO_2-$;

$R^1$ is H, or $C_1$-$C_6$alkyl;

$R^0$ is H or $C_1$-$C_6$alkyl;

$R^2$ is $C_1$-$C_6$alkyl, $-(C_2$-$C_6$alkyl)$-Z$ or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from nitrogen, sulfur, or oxygen; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is $(X)_t-CN$, $C_1$-$C_6$alkyl or $-(X)_r-Z$;

X is $C_1$-$C_4$alkyl;

each t, r and m is independently 0 or 1;

Z is $-NR^3R^4$;

$R^3$ is H or $C_1$-$C_2$alkyl;

$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said ring is optionally substituted with one occurrence of $J^Z$;

$J^Z$ is $NH_2$, $NH(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}aliphatic)$, $NO_2$, CN, $CO_2H$, $CO(C_{1-4}aliphatic)$, $CO_2(C_{1-4}aliphatic)$, $O(haloC_{1-4}aliphatic)$, or $haloC_{1-4}$aliphatic;

$J^5$ is halogen, $NO_2$, CN, $O(haloC_{1-4}aliphatic)$, $haloC_{1-4}$aliphatic, or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with C(O), O, or NR';

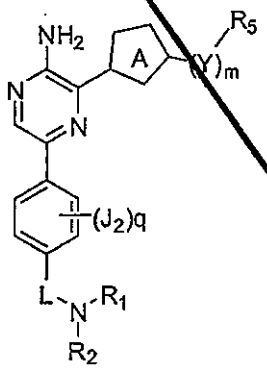
$J^2$ is halo; CN; phenyl; oxazolyl; or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with O, NR", C(O), S, S(O), or $S(O)_2$; said $C_{1-6}$aliphatic group is optionally substituted with 1-3 fluoro or CN;

R' and R" are each independently H or $C_1$-$C_4$ alkyl;

q is 0, 1, or 2; and

p is 0 or 1.

9. A compound of Formula IA-ii:

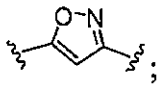



**IA-ii**

or a pharmaceutically acceptable salt thereof; wherein

Y is NH;

Ring A is



;

$R^5$ is 5-6 membered monocyclic aryl or heteroaryl ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, $R^5$ is optionally fused to a 5-6 membered aromatic ring containing 0-2 heteroatoms selected from N, O, or S; each $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is –C(O)– or $–SO_2–$;

$R^1$ is H, or $C_1$-$C_6$alkyl;

$R^2$ is –($C_2$-$C_6$alkyl)–Z or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is -$(X)_t$–CN, $C_1$-$C_6$alkyl or -$(X)_r$–Z;

X is $C_1$-$C_4$alkyl;

each t, r and m is independently 0 or 1;

Z is $–NR^3R^4$;

$R^3$ is H or $C_1$-$C_2$alkyl;

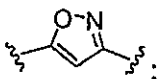
$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms; wherein said ring is optionally substituted with one occurrence of $J^Z$;

each $J^Z$ and $J^5$ is independently $NH_2$, $NH(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}aliphatic)$, $NO_2$, CN, $CO_2H$, $CO(C_{1-4}aliphatic)$, $CO_2(C_{1-4}aliphatic)$, $O(haloC_{1-4}aliphatic)$, or $haloC_{1-4}$aliphatic;

$J^2$ is halo, $C_1$-$C_2$alkyl optionally substituted with 1-3 fluoro or CN;

q is 0, 1, or 2.

10. The compound of claim 9 wherein Ring A is ;

m is 0;

q is 0;

L is –C(O)–;

$R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms;

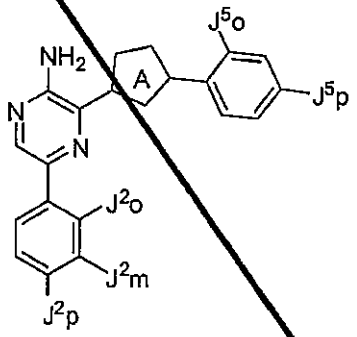
$J^{Z1}$ is $(X)_r$-Z, $C_{1-4}$alkyl or $N(C_{1-4}alkyl)_2$;

$R^3$ and $R^4$, taken together with the atom to which they are bound, form a ring selected from pyrrolidinyl, piperidinyl, piperazinyl, azepanyl, or 1,4-diazepanyl.

11. The compound of claim 9, wherein $R^1$ is H or $C_1$-$C_6$alkyl; $R^2$ is –($C_2$-$C_6$alkyl)–Z; and $R^3$ and $R^4$ are both $C_1$-$C_2$alkyl.

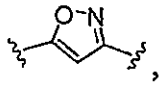
12. The compound of claim 9, wherein m is 0, q is 0, and –L–$NR^1R^2$ is C(O)pyrrolidinyl, C(O)piperidinyl, C(O)piperazinyl, C(O)azepanyl, C(O)1,4-diazepanyl, C(O)NH-piperidinyl, C(O)$NHCH_2CH_2$-pyrrolidinyl, C(O)$NHCH_2CH_2$-piperidinyl, $CON(CH_3)CH_2CH_2N(CH_3)_2$, wherein said pyrrolidinyl, piperidinyl, piperazinyl, azepanyl, or 1,4-diazepanyl is optionally substituted with $C_{1-4}$alkyl or $N(C_{1-4}alkyl)_2$.

13. The compound of claim 1 or claim 2, having Formula IA-iii:

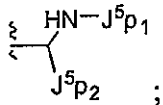



**IA-iii:**

wherein

Ring A is ,

$J^5o$ is H, F, Cl, $C_{1-4}$aliphatic, O($C_{1-3}$aliphatic), or OH;

$J^5p$ is ;

$J^5p1$ is H, $C_{1-4}$aliphatic, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl; wherein $J^5p1$ is optionally substituted with 1-2 occurrences of OH or halo;

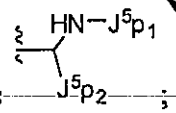
$J^5p2$ is H, methyl, ethyl, $CH_2F$, $CF_3$, or $CH_2OH$;

$J^2o$ is H, CN, or $SO_2CH_3$;

$J^2m$ is H, F, Cl, or methyl;

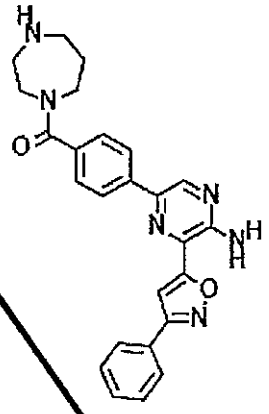
$J^2p$ is $-SO_2(C_{1-6}alkyl)$, $-SO_2(C_{3-6}cycloalkyl)$, $-SO_2$(4-6 membered heterocyclyl), $-SO_2(C_{1-4}alkyl)N(C_{1-4}alkyl)_2$, or $-SO_2(C_{1-4}alkyl)$-(4-6 membered heterocyclyl), wherein said heterocyclyl contains 1 heteroatom selected from oxygen, nitrogen, or sulfur; and wherein said $J^2p$ is optionally substituted with 1-3 occurences halo, OH, or $O(C_{1-4}alkyl)$.

14. The compound of claim 13, wherein $J^2m$ is H.
15. The compound of claim 13, wherein $J^5o$ is H.
16. The compound of claim 13, wherein $J^2p$ is $-SO_2(C_{1-6}alkyl)$.
17. The compound of claim 13, wherein

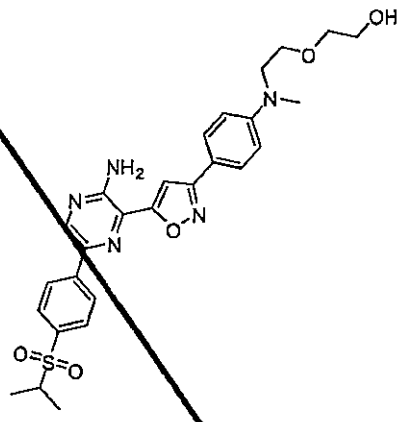


$J^5p$ is ; $J^5p1$ is $CH_3$; $J^5p2$ is H.

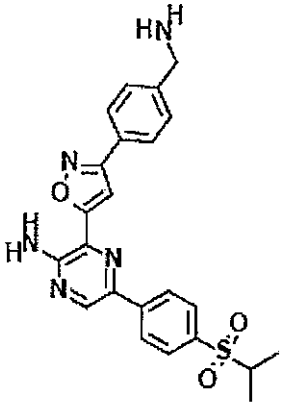
18. A compound selected from the following:



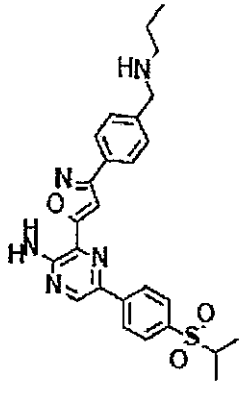
IIA-3



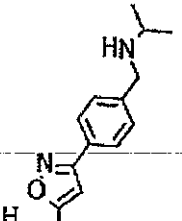
IIA-4

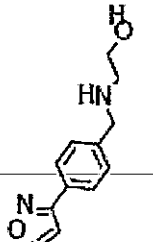


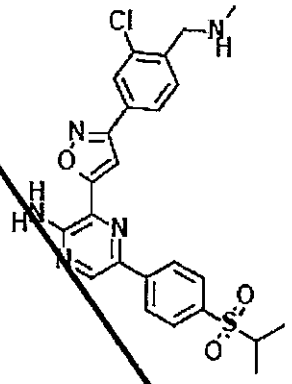
IIA-5



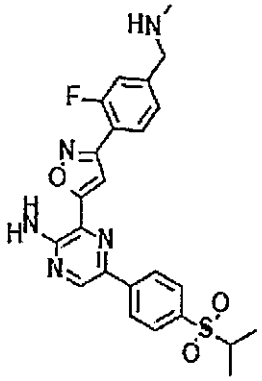
IIA-6



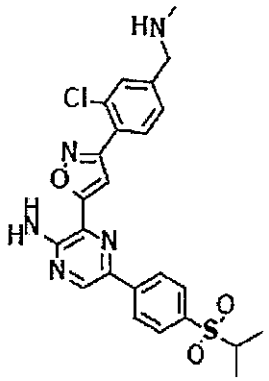




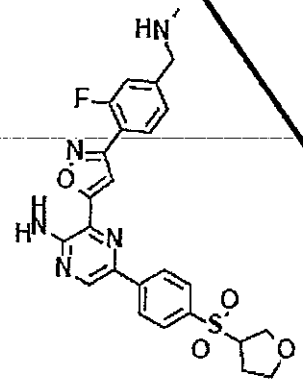
IIA-13



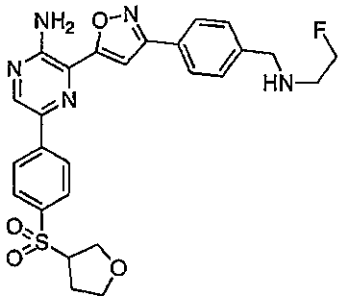
IIA-14



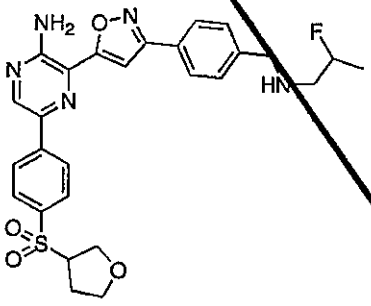
IIA-15



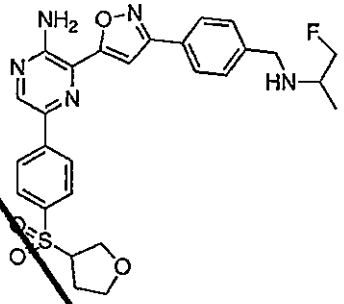
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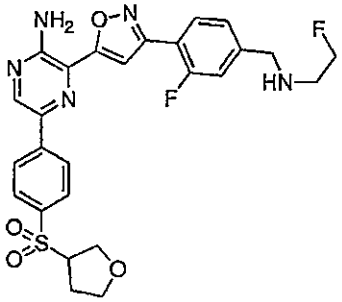
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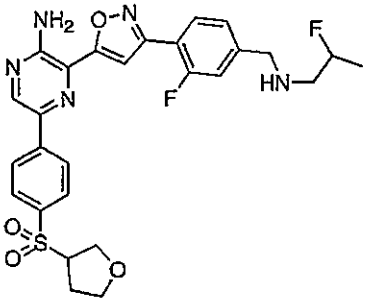
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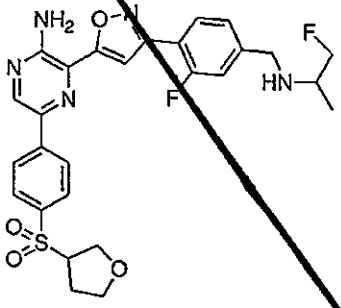
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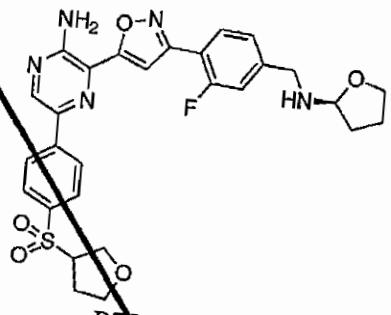
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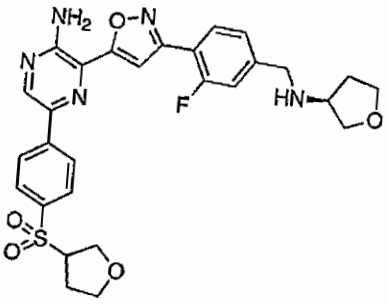
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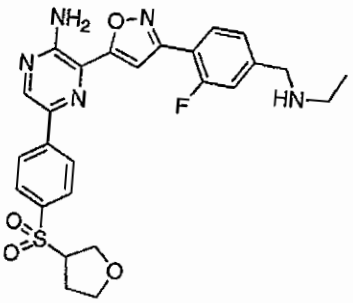
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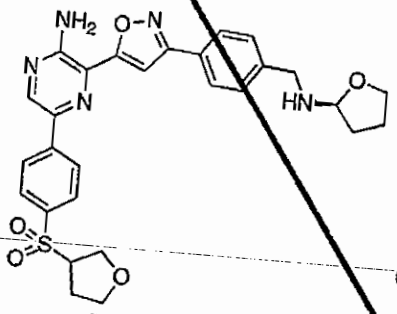
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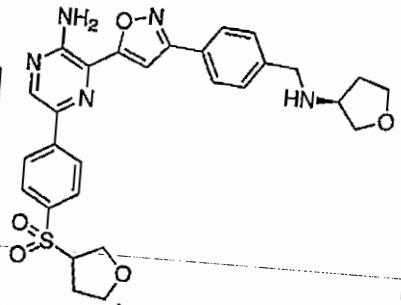
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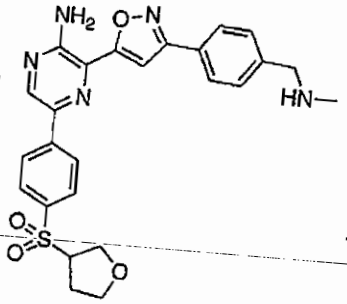
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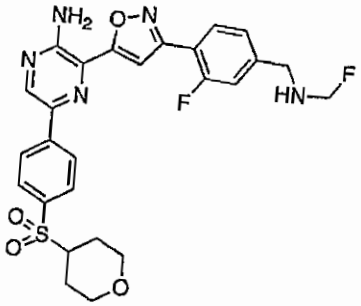
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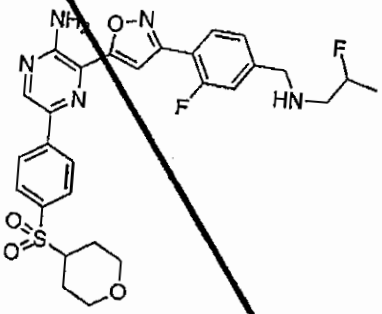
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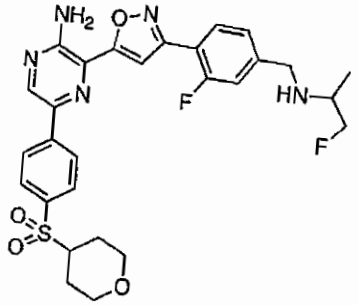
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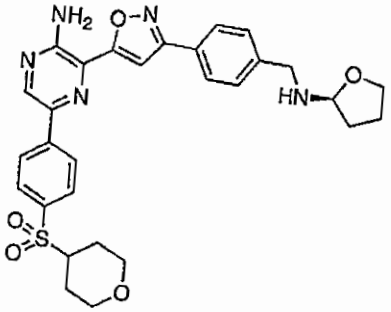
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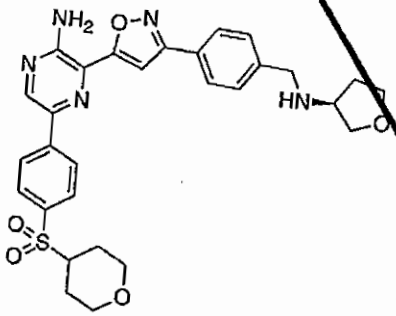
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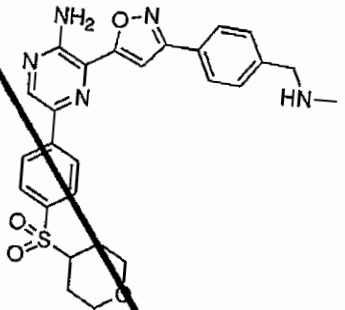
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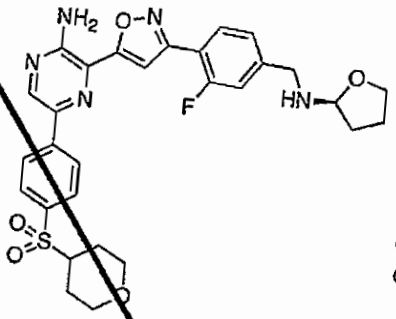
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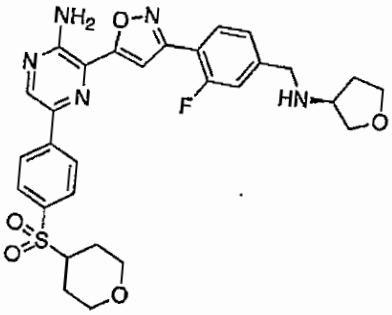
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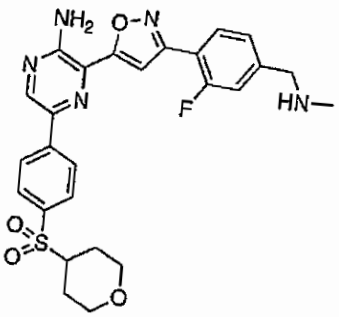
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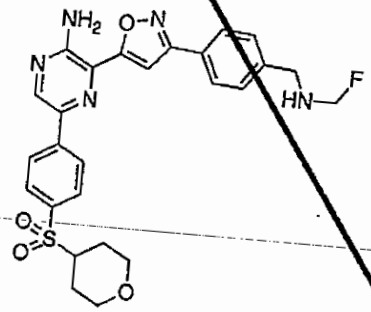
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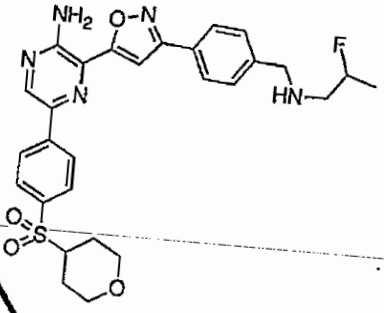
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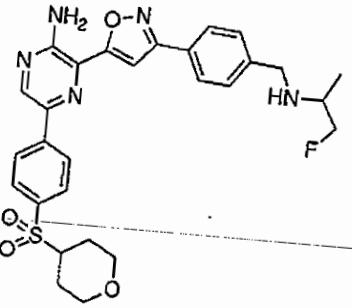
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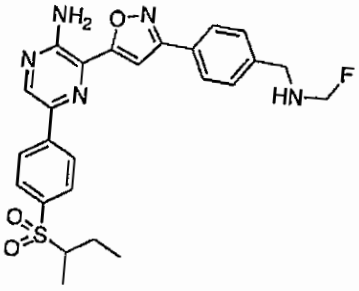
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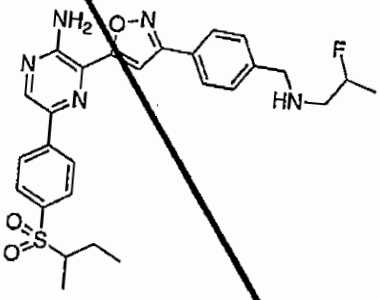
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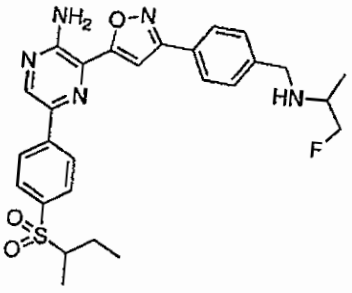
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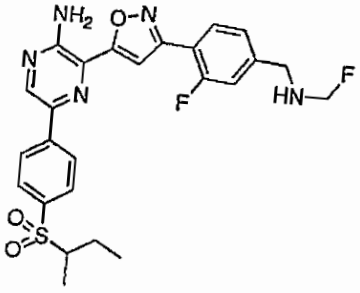
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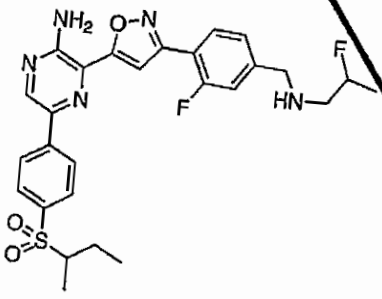
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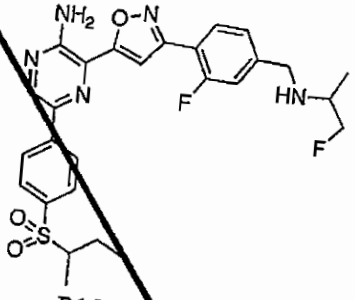
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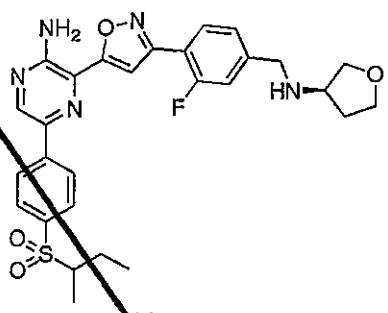
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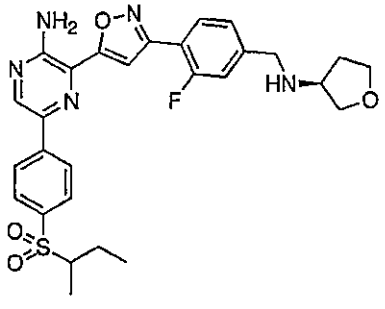
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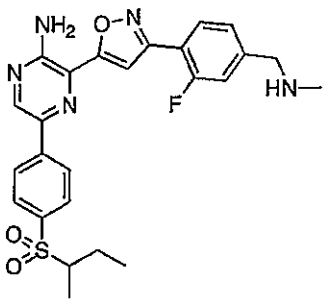
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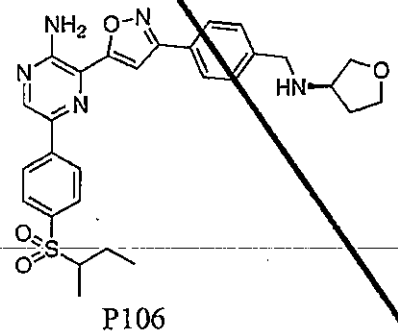
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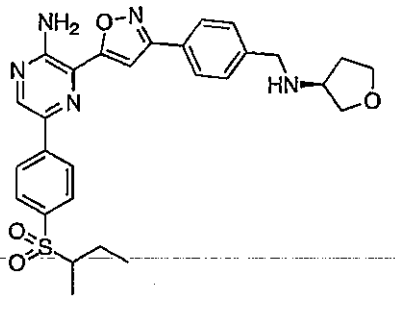
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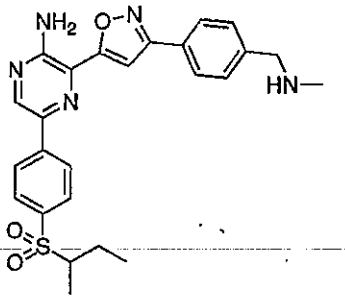
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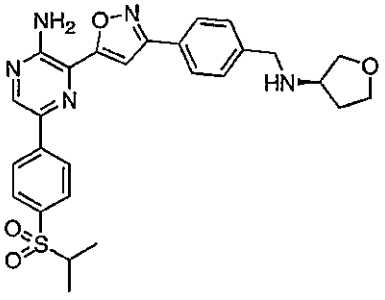
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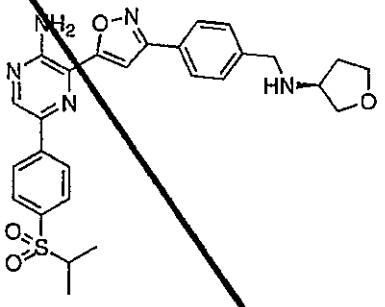
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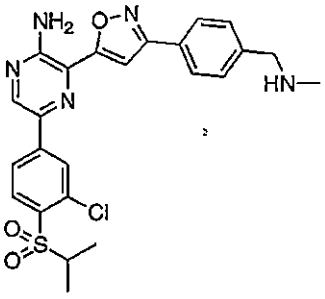
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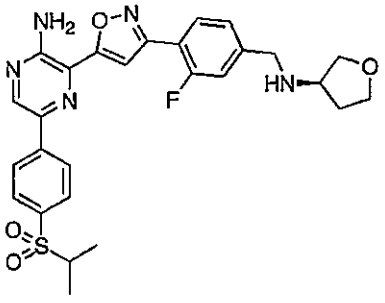
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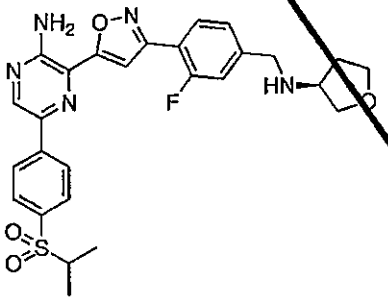
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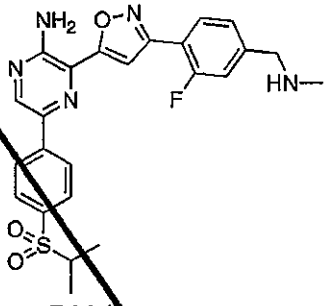
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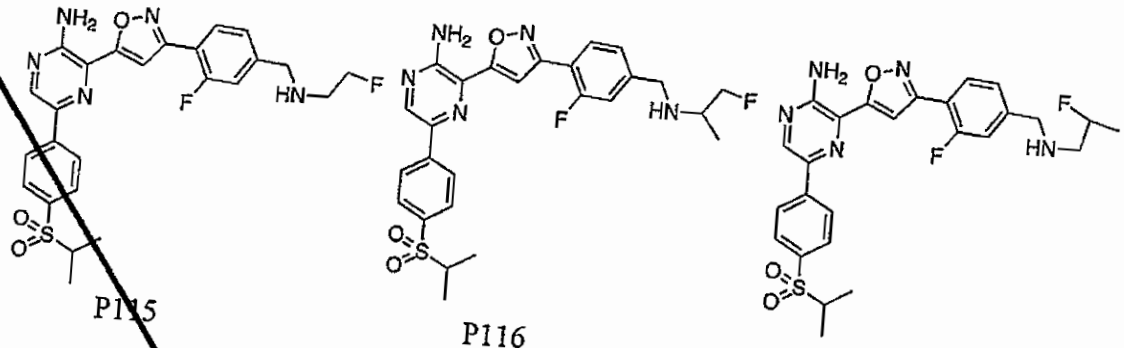
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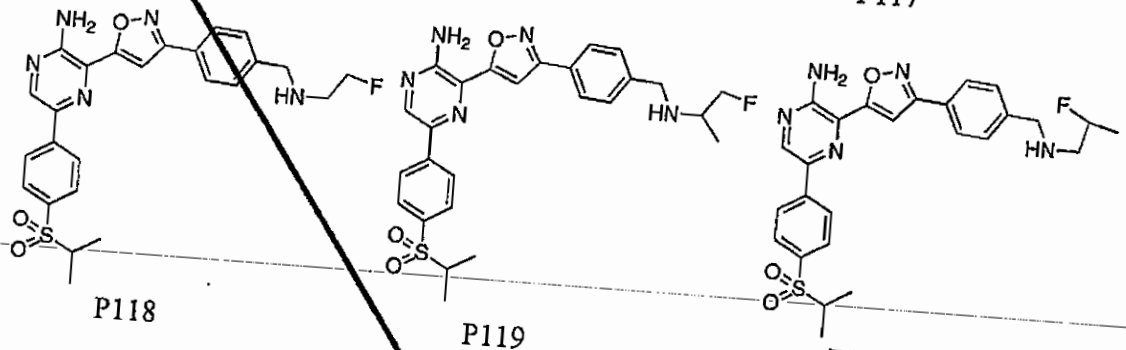
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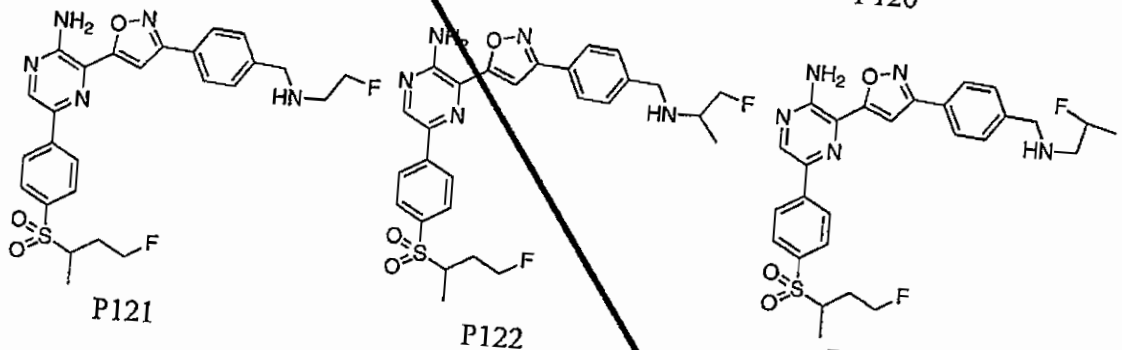
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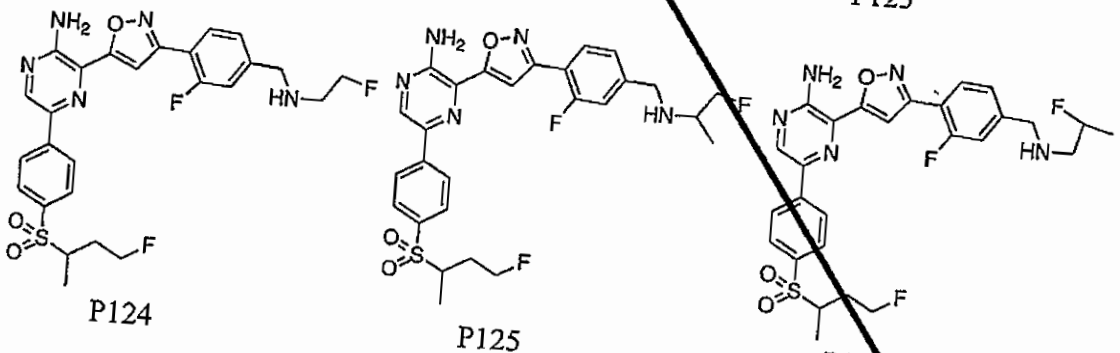
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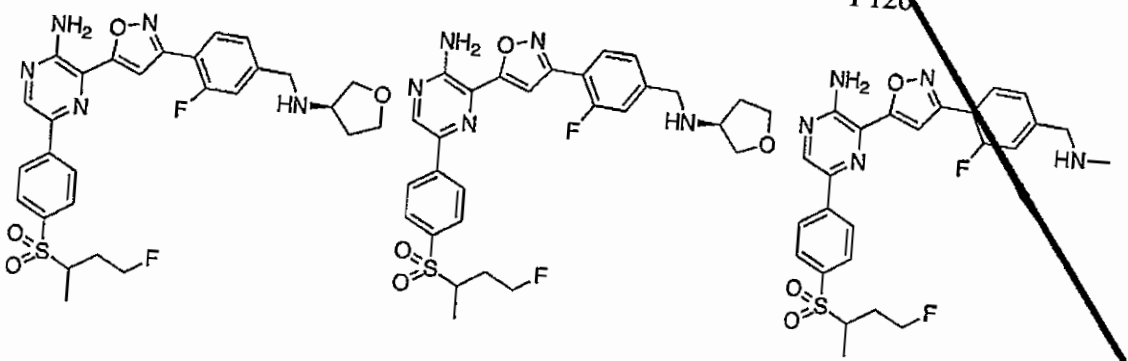
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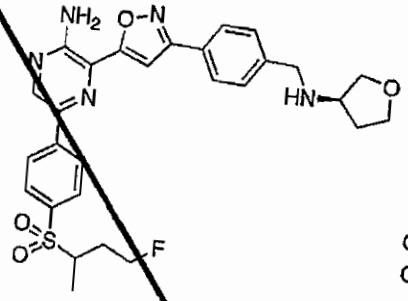
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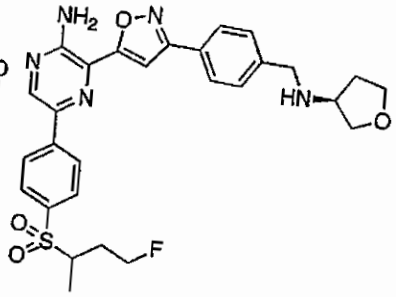
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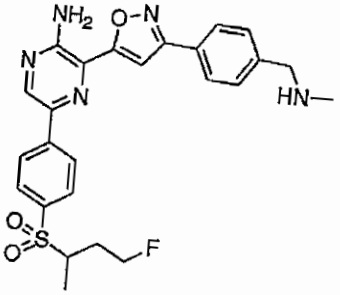
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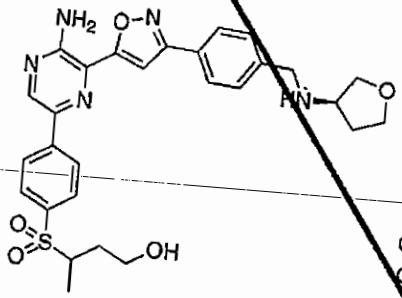
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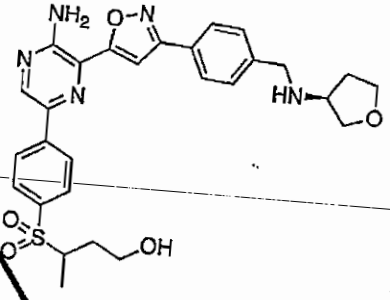


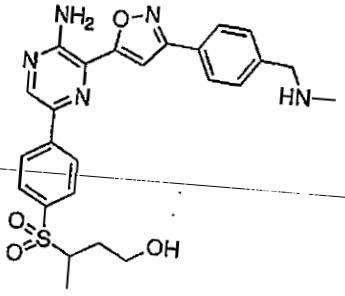
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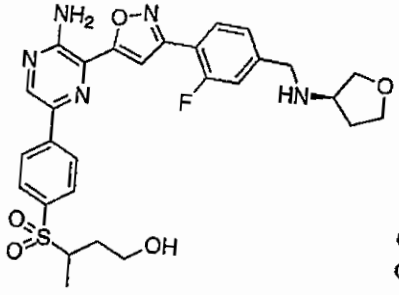


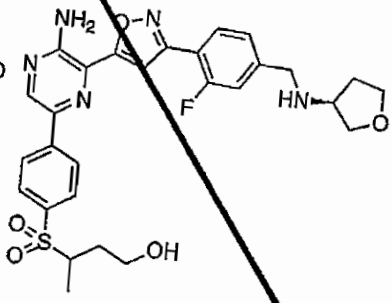


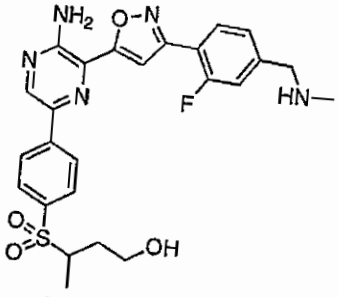
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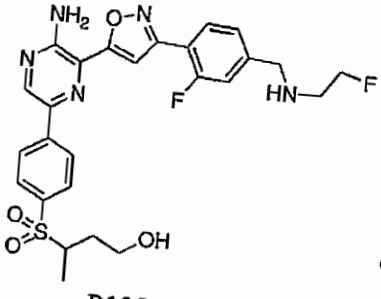


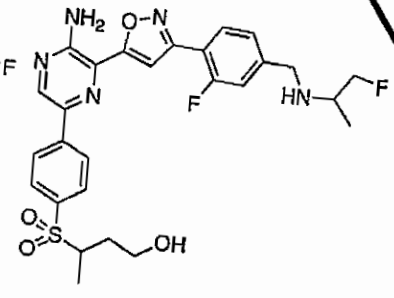


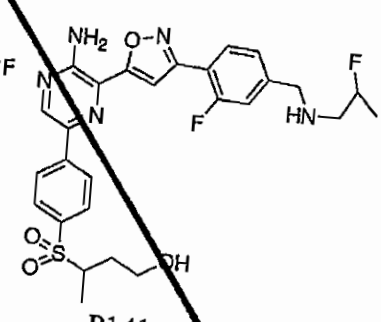
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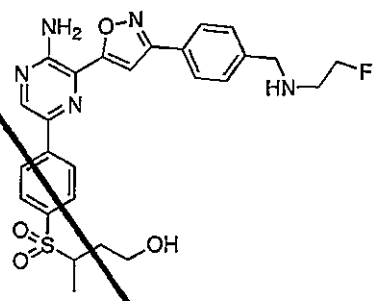




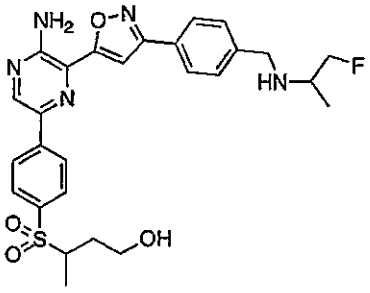
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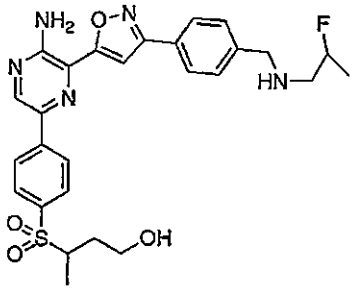
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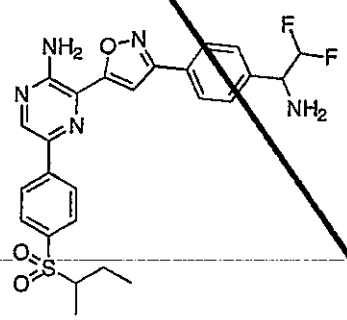
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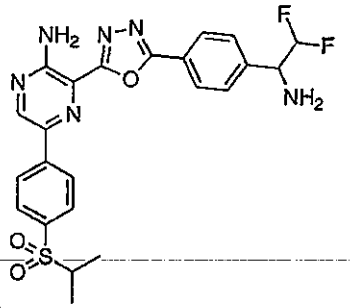
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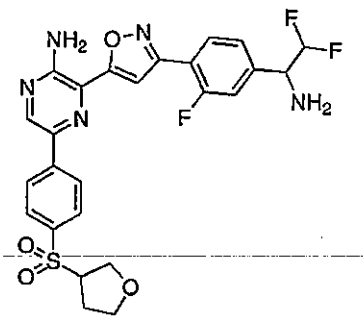
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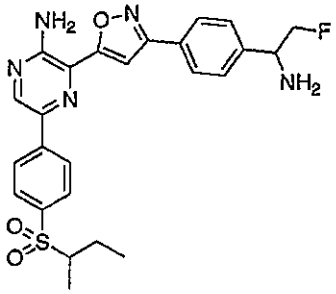
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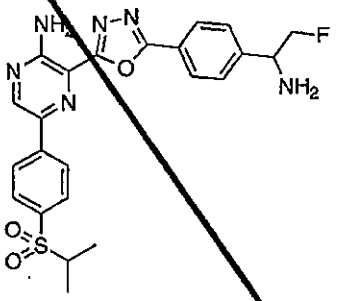
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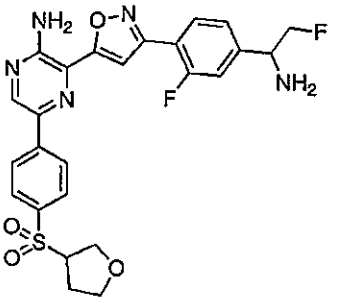
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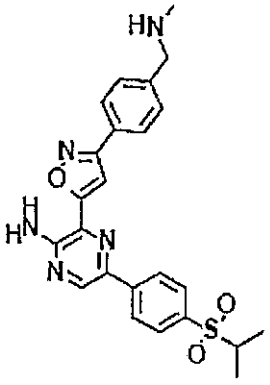


P149



P150.

19. (New) A compound of formula IIA-7:



IIA-7.

20. A pharmaceutical composition comprising a compound of any one of claims 1-36 and a pharmaceutically acceptable carrier.

21. A compound of any one of claims 1-19, or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition thereof, according to claim 20, for use in treating cancer in a patient.

22. The compound according to any one of claims 1-19, for use according to claim 21, comprising an additional therapeutic agent selected from a DNA-damaging agent; wherein said additional therapeutic agent is appropriate for the disease being treated; and said additional therapeutic agent is administered together with said compound as a single dosage form or separately from said compound as part of a multiple dosage form.

23. The compound or composition for use according to claim 21, further comprising a DNA-damaging agent, wherein said DNA-damaging agent is a platinating agent or ionizing radiation.

24. The compound according to claim 22, wherein said DNA-damaging agent is selected from chemotherapy or radiation treatment.

25. The compound according to claim 22, wherein said DNA-damaging agent is selected from ionizing radiation, radiomimetic neocarzinostatin, a platinating agent, a Topo I inhibitor, a Topo II inhibitor, an antimetabolite, an alkylating agent, an alkyl sulphonates, an antimetabolite, or an antibiotic.

26. The compound according to claim 23, wherein said platinating agent is selected from Cisplatin, Oxaliplatin, Carboplatin, Nedaplatin, or Satraplatin; said Topo I inhibitor is selected from Camptothecin, Topotecan, irinotecan/SN38, rubitecan; said Topo II inhibitor is selected from Etoposide; said antimetabolite is selected from methotrexate, pemetrexed, Thioguanine, Fludarabine, Cladribine, Cytarabine, gemcitabine, 6-Mercaptopurine, or 5-Fluorouracil; said alkylating agent is selected from nitrogen mustards, nitrosoureas, triazenes, alkyl sulfonates, Procarbazine, or aziridines; and said antibiotic is selected from Hydroxyurea, Anthracyclines, Anthracenediones, or Streptomyces family.

27. The compound or composition for use according to any one of claims 21-26, wherein said cancer is a solid tumor selected from the following cancers: Oral: buccal cavity, lip, tongue, mouth, pharynx; Cardiac: sarcoma (angiosarcoma, fibrosarcoma, rhabdomyosarcoma, liposarcoma), myxoma, rhabdomyoma, fibroma, lipoma and teratoma; Lung: bronchogenic carcinoma (squamous cell or epidermoid, undifferentiated small cell, undifferentiated large cell, adenocarcinoma), alveolar (bronchiolar) carcinoma, bronchial adenoma, sarcoma, lymphoma, chondromatous hamartoma, mesothelioma; Gastrointestinal: esophagus (squamous cell carcinoma, larynx, adenocarcinoma, leiomyosarcoma, lymphoma), stomach (carcinoma, lymphoma, leiomyosarcoma), pancreas (ductal adenocarcinoma, insulinoma, glucagonoma, gastrinoma, carcinoid tumors, vipoma), small bowel or small intestines (adenocarcinoma, lymphoma, carcinoid tumors, Karposi's sarcoma, leiomyoma, hemangioma, lipoma, neurofibroma, fibroma), large bowel or large intestines (adenocarcinoma, tubular adenoma, villous adenoma, hamartoma, leiomyoma), colon, colon-rectum, colorectal; rectum, Genitourinary tract: kidney (adenocarcinoma, Wilm's tumor [nephroblastoma], lymphoma), bladder and urethra (squamous cell carcinoma, transitional cell carcinoma, adenocarcinoma), prostate (adenocarcinoma, sarcoma), testis (seminoma, teratoma, embryonal carcinoma, teratocarcinoma, choriocarcinoma, sarcoma, interstitial cell carcinoma, fibroma, fibroadenoma, adenomatoid tumors, lipoma); Liver: hepatoma (hepatocellular carcinoma), cholangiocarcinoma, hepatoblastoma, angiosarcoma, hepatocellular adenoma, hemangioma, biliary passages; Bone: osteogenic sarcoma (osteosarcoma), fibrosarcoma, malignant fibrous histiocytoma, chondrosarcoma, Ewing's sarcoma, malignant lymphoma (reticulum cell sarcoma), multiple myeloma, malignant giant cell tumor chordoma, osteochronfroma (osteocartilaginous exostoses), benign chondroma, chondroblastoma, chondromyxofibroma, osteoid osteoma and giant cell tumors; Nervous system: skull (osteoma, hemangioma, granuloma, xanthoma, osteitis deformans), meninges (meningioma, meningiosarcoma, gliomatosis), brain (astrocytoma, medulloblastoma, glioma, ependymoma, germinoma [pinealoma], glioblastoma multiform, oligodendroglioma, schwannoma, retinoblastoma, congenital tumors), spinal cord neurofibroma, meningioma, glioma, sarcoma); Gynecological: uterus (endometrial carcinoma), cervix (cervical carcinoma, pre-tumor cervical dysplasia), ovaries (ovarian carcinoma [serous cystadenocarcinoma, mucinous

cystadenocarcinoma, unclassified carcinoma], granulosa-thecal cell tumors, Sertoli-Leydig cell tumors, dysgerminoma, malignant teratoma), vulva (squamous cell carcinoma, intraepithelial carcinoma, adenocarcinoma, fibrosarcoma, melanoma), vagina (clear cell carcinoma, squamous cell carcinoma, botryoid sarcoma (embryonal rhabdomyosarcoma), fallopian tubes (carcinoma), breast; Skin: malignant melanoma, basal cell carcinoma, squamous cell carcinoma, Karposi's sarcoma, keratoacanthoma, moles dysplastic nevi, lipoma, angioma, dermatofibroma, keloids, psoriasis, Thyroid gland: papillary thyroid carcinoma, follicular thyroid carcinoma; medullary thyroid carcinoma, multiple endocrine neoplasia type 2A, multiple endocrine neoplasia type 2B, familial medullary thyroid cancer, pheochromocytoma, paraganglioma; and Adrenal glands: neuroblastoma.

28. The compound or composition for use according to claim 21, wherein said cancer is selected from lung cancer, head and neck cancer, pancreatic cancer, gastric cancer and brain cancer.

29. A compound according to any one of claims 1-19, or a pharmaceutically acceptable composition thereof, for use in promoting cell death in cancer cells, preventing cell repair from DNA damage, or sensitizing cells to DNA damaging agents.

30. An *ex vivo* method of inhibiting ATR in a biological sample comprising the step of contacting a compound of any one of claims 1-19, with said biological sample.

31. Use of a compound of any one of claims 1-19, as a radio-sensitizer or a chemo-sensitizer; as a single agent (monotherapy) for treating cancer; or for treating patients having cancer with a DNA-damage response (DDR) defect; for example wherein said defect is a mutation or loss of ATM, p53, CHK2, MRE11, RAD50, NBS1, 53BP1, MDC1, or H2AX.

32. The compound according to any one of claims 1-19, for use according to claim 26, wherein

a) said cell is a cancer cell having defects in the ATM signaling cascade; or

b) said cell is a cancer cell expressing DNA damaging oncogenes.

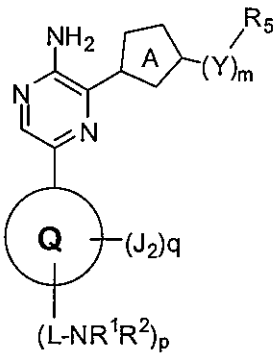
33. The compound according to claim 32, wherein said defect in the ATM signaling cascade is

a) altered expression or activity of one or more of the following: ATM, p53, CHK2, MRE11, RAD50, NBS1, 53BP1, MDC1 or H2AX; or

b) altered expression or activity of one or more of the following: K-Ras, N-Ras, H-Ras, Raf, Myc, Mos, E2F, Cdc25A, CDC4, CDK2, Cyclin E, Cyclin A and Rb.

CLAIMS

1. A compound of formula **IA:**

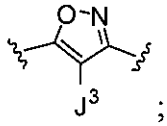


**IA**

or a pharmaceutically acceptable salt thereof; wherein

Y is a $C_1$-$C_6$ aliphatic chain wherein one methylene unit of the aliphatic chain are optionally replaced with $NR^0$or C(O) ;

Ring A is



;

$J^3$ is H or $C_{1-4}$alkyl wherein 1 methylene unit of the alkyl group can optionally be replaced with O, NH, N($C_{1-4}$alkyl), or S and optionally substituted with 1-3 halo;

Q is phenyl or pyridyl substituted in the ortho position, the para position, or in both the ortho and the para position;

$R^5$ is a 3-7 membered monocyclic fully saturated, partially unsaturated, or aromatic ring containing 0-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; an 8-10 membered bicyclic fully saturated, partially unsaturated, or aromatic ring containing 0-6 heteroatoms independently selected from nitrogen, oxygen, or sulfur; $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is a $C_{1-4}$alkyl chain wherein up to two methylene units of the alkyl chain are optionally replaced with O, $NR^6$, S, –C(O)–, –SO–, or –$SO_2$–;

$R^0$ is H or $C_1$-$C_6$alkyl wherein one methylene unit of the alkyl chain can be optionally replaced with O, NH, N($C_{1-4}$alkyl), or S;

$R^1$ is H or $C_1$-$C_6$alkyl;

$R^2$ is H, $C_1$-$C_6$alkyl, –($C_2$-$C_6$alkyl)–Z or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is $-(X)_t-CN$, $C_1$-$C_6$alkyl, or $-(X)_r-Z$;

X is $C_1$-$C_4$alkyl;

each t, r and m is independently 0 or 1;

Z is $-NR^3R^4$;

$R^3$ is H or $C_1$-$C_2$alkyl;

$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said ring is optionally substituted with one occurrence of $J^Z$;

$R^6$ is H, or $C_1$-$C_6$alkyl;

$J^Z$ is independently $NH_2$, $NH(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}aliphatic)$, $NO_2$, CN, $CO_2H$, $CO(C_{1-4}aliphatic)$, $CO_2(C_{1-4}aliphatic)$, $O(haloC_{1-4}aliphatic)$, or $haloC_{1-4}aliphatic$;

$J^5$ is halo, oxo, CN, $NO_2$, $X^1$-R, or $-(X^1)_p$-$Q^4$;

$X^1$ is $C_{1-10}$aliphatic; wherein 1-3 methylene units of said $C_{1-10}$aliphatic are optionally replaced with –NR'–, -O-, -S-, C(=NR'), C(O), $S(O)_2$, or S(O); wherein $X^1$ is optionally and independently substituted with 1-4 occurrences of $NH_2$, $NH(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}aliphatic)$, $NO_2$, CN, $CO_2H$, $CO_2(C_{1-4}aliphatic)$, $C(O)NH_2$, $C(O)NH(C_{1-4}aliphatic)$, $C(O)N(C_{1-4}aliphatic)_2$, $SO(C_{1-4}aliphatic)$, $SO_2(C_{1-4}aliphatic)$, $SO_2NH(C_{1-4}aliphatic)$, $SO_2NH(C_{1-4}aliphatic)$, $NHC(O)(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)C(O)(C_{1-4}aliphatic)$, wherein said $C_{1-4}$aliphatic is optionally substituted with 1-3 occurrences of halo;

$Q^4$ is a 3-8 membered saturated or unsaturated monocyclic ring having 0-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 8-10 membered saturated or unsaturated bicyclic ring having 0-6 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each $Q^4$ is optionally substituted with 1-5 $J^{Q4}$;

$J^{Q4}$ is halo, CN, or $C_{1-4}$alkyl wherein up to 2 methylene units are optionally replaced with O, NR*, S, C(O), S(O), or $S(O)_2$;

R is H or $C_{1-4}$alkyl wherein said $C_{1-4}$alkyl is optionally substituted with 1-4 halo;

$J^2$ is halo; CN; a 5-6 membered aromatic or nonaromatic monocyclic ring having 0-3 heteroatoms selected from oxygen, nitrogen, or sulfur; or a $C_{1-10}$aliphatic group wherein up to 2 methylene units are optionally replaced with O, NR", C(O), S, S(O), or $S(O)_2$; wherein said $C_{1-10}$aliphatic group is optionally substituted with 1-3 halo or CN; and said monocyclic ring is optionally substituted with 1-3 occurences of halo; CN; a $C_{3-6}$cycloalkyl; a 3-7 membered heterocyclyl containing 0-2 heteroatoms selected from oxygen, nitrogen, or sulfur; or a $C_{1-4}$alkyl wherein up to one methylene unit of the alkyl chain is optionally replaced with O, NR", or S; and wherein said $C_{1-4}$alkyl is optionally substituted with 1-3 halo;

q is 0, 1, or 2;

p is 0 or 1;

R', R", and R* are each independently H, $C_{1-4}$alkyl, or is absent; wherein said $C_{1-4}$alkyl is optionally substituted with 1-4 halo.

2. The compound of claim 1, wherein $J^3$ is H.

3. The compound of claim 2, wherein

Y is NH;

$R^5$ is 5-6 membered monocyclic aryl or heteroaryl ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, $R^5$ is optionally fused to a 5-6 membered aromatic ring containing 0-2 heteroatoms selected from N, O, or S; each $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is–C(O)– or –$SO_2$–;

$R^1$ is H, or $C_1$-$C_6$alkyl;

$R^2$ is –($C_2$-$C_6$alkyl)–Z or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is -$(X)_t$–CN, $C_1$-$C_6$alkyl or -$(X)_r$–Z;

$R^3$ is H or $C_1$-$C_2$alkyl;

$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said ring is optionally substituted with one occurrence of $J^Z$;

$J^5$ is halogen, $NO_2$, CN, O(halo$C_{1-4}$aliphatic), halo$C_{1-4}$aliphatic, or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with C(O), O, or NR'; and

$J^2$ is halo, $C_1$-$C_2$alkyl optionally substituted with 1-3 fluoro, or CN.

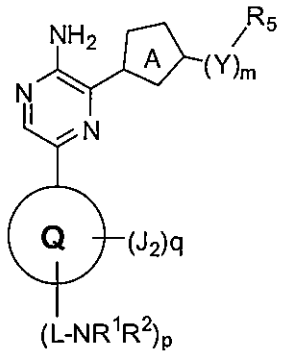
4. The compound of claim 2, wherein L is –C(O)–, m is 0, and $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms.

5. The compound of claim 4, wherein said heterocyclyl is pyrrolidinyl, piperidinyl, piperazinyl, azepanyl, or 1,4-diazepanyl.

6. The compound of any one of claims 1-5, wherein m is 0, q is 0, and –L–$NR^1R^2$ is C(O)pyrrolidinyl, C(O)piperidinyl, C(O)piperazinyl, C(O)azepanyl, C(O) 1,4-diazepanyl, C(O)NH-piperidinyl, C(O)NH$CH_2CH_2$-pyrrolidinyl, C(O)NH$CH_2CH_2$-piperidinyl, CON($CH_3$)$CH_2CH_2N(CH_3)_2$, wherein said pyrrolidinyl, piperidinyl, piperazinyl, azepanyl or 1,4-diazepanyl is optionally substituted with $C_{1-4}$alkyl or N($C_{1-4}$alkyl)$_2$.

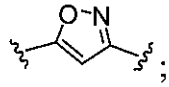
7. The compound of any one of claims 1-6, wherein $J^2$ is halo, CN, phenyl, oxazolyl, or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with O, NR", C(O), S, S(O), or $S(O)_2$; said $C_{1-6}$aliphatic group is optionally substituted with 1-3 fluoro or CN.

8. The compound of claim 2 having Formula IIA:



**IIA**

wherein

Ring A is ;

Y is a $C_1$-$C_4$alkyl chain wherein one methylene unit of the alkyl chain is optionally replaced with $-NR^0-$;

Q is phenyl or pyridyl substituted in the ortho position, the para position, or in both the ortho and the para position;

$R^5$ is 5-6 membered monocyclic aryl or heteroaryl ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, $R^5$ is optionally fused to a 5-6 membered aromatic ring containing 0-2 heteroatoms selected from N, O, or S; each $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is $-C(O)-$ or $-SO_2-$;

$R^1$ is H, or $C_1$-$C_6$alkyl;

$R^0$ is H or $C_1$-$C_6$alkyl;

$R^2$ is $C_1$-$C_6$alkyl, $-(C_2$-$C_6$alkyl$)-Z$ or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from nitrogen, sulfur, or oxygen; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is $(X)_t-CN$, $C_1$-$C_6$alkyl or $-(X)_r-Z$;

X is $C_1$-$C_4$alkyl;

each t, r and m is independently 0 or 1;

Z is $-NR^3R^4$;

$R^3$ is H or $C_1$-$C_2$alkyl;

$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 heteroatoms selected from oxygen, nitrogen, or sulfur; wherein said ring is optionally substituted with one occurrence of $J^Z$;

$J^Z$ is $NH_2$, $NH(C_{1-4}aliphatic)$, $N(C_{1-4}aliphatic)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}aliphatic)$, $NO_2$, CN, $CO_2H$, $CO(C_{1-4}aliphatic)$, $CO_2(C_{1-4}aliphatic)$, $O(haloC_{1-4}aliphatic)$, or $haloC_{1-4}aliphatic$;

$J^5$ is halogen, $NO_2$, CN, $O(haloC_{1-4}aliphatic)$, $haloC_{1-4}aliphatic$, or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with C(O), O, or NR';

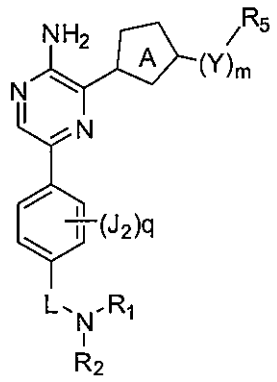
$J^2$ is halo; CN; phenyl; oxazolyl; or a $C_{1-6}$aliphatic group wherein up to 2 methylene units are optionally replaced with O, NR", C(O), S, S(O), or $S(O)_2$; said $C_{1-6}$aliphatic group is optionally substituted with 1-3 fluoro or CN;

R' and R" are each independently H or $C_1$-$C_4$ alkyl;

q is 0, 1, or 2; and

p is 0 or 1.

9. The compound of claim 1 or claim 2 having the Formula IA-ii:

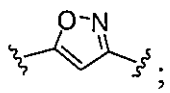



**IA-ii**

or a pharmaceutically acceptable salt thereof; wherein

Y is NH;

Ring A is



;

$R^5$ is 5-6 membered monocyclic aryl or heteroaryl ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, $R^5$ is optionally fused to a 5-6 membered aromatic ring containing 0-2 heteroatoms selected from N, O, or S; each $R^5$ is optionally substituted with 1-5 $J^5$ groups;

L is $-C(O)-$ or $-SO_2-$;

$R^1$ is H, or $C_1$-$C_6$alkyl;

$R^2$ is $-(C_2$-$C_6$alkyl$)-Z$ or a 4-8 membered cyclic ring containing 0-2 nitrogen atoms; wherein said ring is bonded via a carbon atom and is optionally substituted with one occurrence of $J^Z$;

or $R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms; wherein said heterocyclic ring is optionally substituted with one occurrence of $J^{Z1}$;

$J^{Z1}$ is $-(X)_t-CN$, $C_1$-$C_6$alkyl or $-(X)_r-Z$;

X is $C_1$-$C_4$alkyl;

each t, r and m is independently 0 or 1;

Z is $-NR^3R^4$;

$R^3$ is H or $C_1$-$C_2$alkyl;

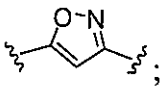
$R^4$ is H or $C_1$-$C_6$alkyl;

or $R^3$ and $R^4$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms; wherein said ring is optionally substituted with one occurrence of $J^Z$;

each $J^Z$ and $J^5$ is independently $NH_2$, $NH(C_{1-4}$aliphatic$)$, $N(C_{1-4}$aliphatic$)_2$, halogen, $C_{1-4}$aliphatic, OH, $O(C_{1-4}$aliphatic$)$, $NO_2$, CN, $CO_2H$, $CO(C_{1-4}$aliphatic$)$, $CO_2(C_{1-4}$aliphatic$)$, $O($halo$C_{1-4}$aliphatic$)$, or halo$C_{1-4}$aliphatic;

$J^2$ is halo, $C_1$-$C_2$alkyl optionally substituted with 1-3 fluoro or CN;

q is 0, 1, or 2.

10. The compound of claim 9 wherein Ring A is ;

m is 0;

q is 0;

L is $-C(O)-$;

$R^1$ and $R^2$, taken together with the atom to which they are bound, form a 4-8 membered heterocyclic ring containing 1-2 nitrogen atoms;

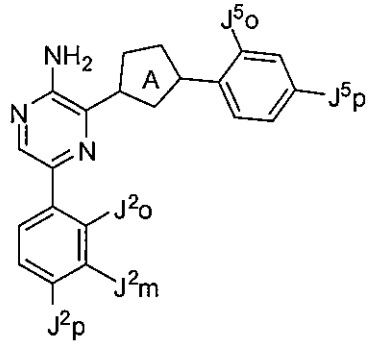
$J^{Z1}$ is $(X)_r$-Z, $C_{1-4}$alkyl or $N(C_{1-4}$alkyl$)_2$;

$R^3$ and $R^4$, taken together with the atom to which they are bound, form a ring selected from pyrrolidinyl, piperidinyl, piperazinyl, azepanyl, or 1,4-diazepanyl.

11. The compound of claim 9, wherein $R^1$ is H or $C_1$-$C_6$alkyl; $R^2$ is –($C_2$-$C_6$alkyl)–Z; and $R^3$ and $R^4$ are both $C_1$-$C_2$alkyl.

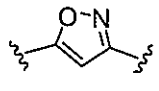
12. The compound of claim 9, wherein m is 0, q is 0, and –L–$NR^1R^2$ is C(O)pyrrolidinyl, C(O)piperidinyl, C(O)piperazinyl, C(O)azepanyl, C(O)1,4-diazepanyl, C(O)NH-piperidinyl, $C(O)NHCH_2CH_2$-pyrrolidinyl, $C(O)NHCH_2CH_2$-piperidinyl, $CON(CH_3)CH_2CH_2N(CH_3)_2$, wherein said pyrrolidinyl, piperidinyl, piperazinyl, azepanyl, or 1,4-diazepanyl is optionally substituted with $C_{1-4}$alkyl or $N(C_{1-4}alkyl)_2$.

13. The compound of claim 1 or claim 2, having Formula IA-iii:



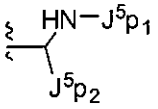

**IA-iii**:

wherein

Ring A is 

,

$J^5o$ is H, F, Cl, $C_{1-4}$aliphatic, $O(C_{1-3}aliphatic)$, or OH;

$J^5p$ is 

;

$J^5p1$ is H, $C_{1-4}$aliphatic, oxetanyl, tetrahydrofuranyl, tetrahydropyranyl; wherein $J^5p1$ is optionally substituted with 1-2 occurrences of OH or halo;

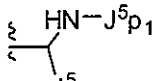
$J^5p2$ is H, methyl, ethyl, $CH_2F$, $CF_3$, or $CH_2OH$;

$J^2o$ is H, CN, or $SO_2CH_3$;

$J^2m$ is H, F, Cl, or methyl;

$J^2p$ is $-SO_2(C_{1-6}alkyl)$, $-SO_2(C_{3-6}cycloalkyl)$, $-SO_2$(4-6 membered heterocyclyl), $-SO_2(C_{1-4}alkyl)N(C_{1-4}alkyl)_2$, or $-SO_2(C_{1-4}alkyl)$-(4-6 membered heterocyclyl), wherein said heterocyclyl contains 1 heteroatom selected from oxygen, nitrogen, or sulfur; and wherein said $J^2p$ is optionally substituted with 1-3 occurences halo, OH, or $O(C_{1-4}alkyl)$.

14. The compound of claim 13, wherein $J^2m$ is H.
15. The compound of claim 13, wherein $J^5o$ is H.
16. The compound of claim 13, wherein $J^2p$ is $-SO_2(C_{1-6}alkyl)$.
17. The compound of claim 13, wherein

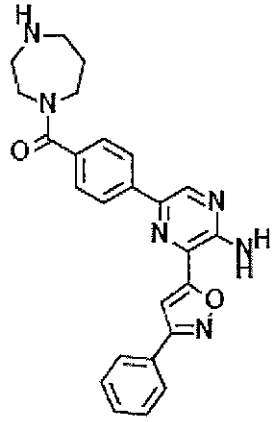



$J^5p$ is ;

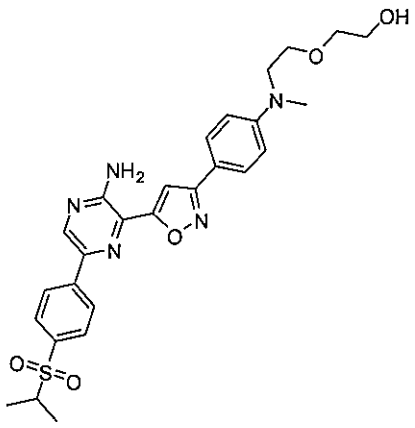
$J^5p1$ is $CH_3$;

$J^5p2$ is H.

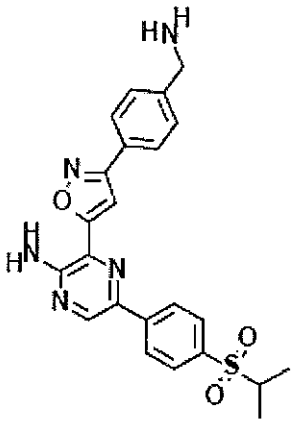
18. A compound selected from the following:



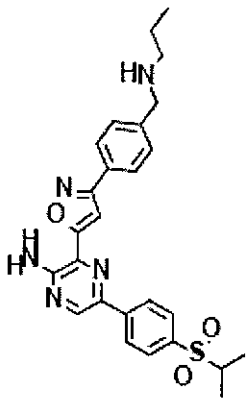

IIA-3



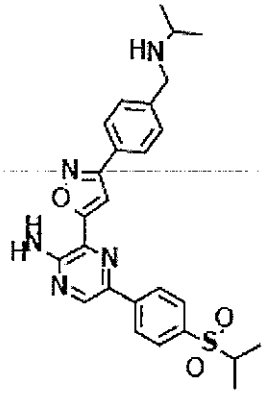
IIA-4



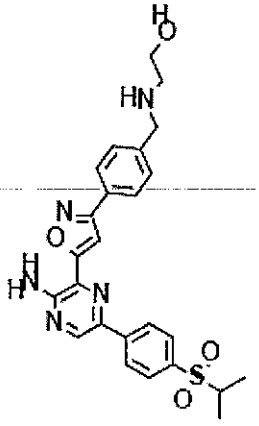
IIA-5



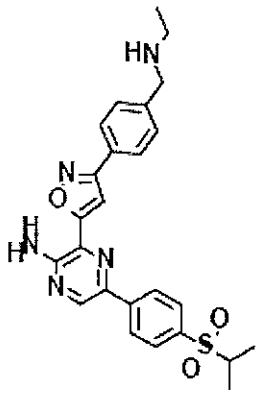
IIA-6



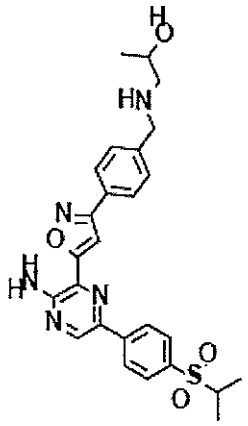
IIA-8



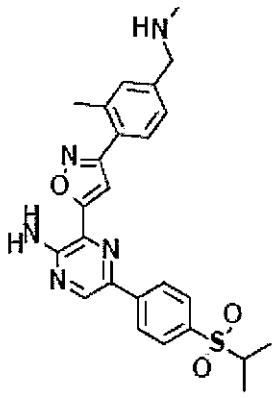
IIA-9



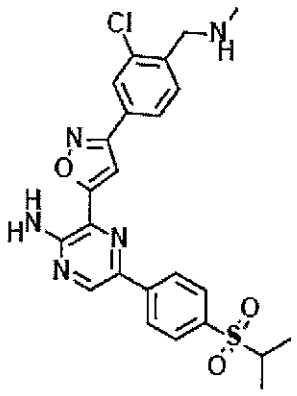
IIA-10



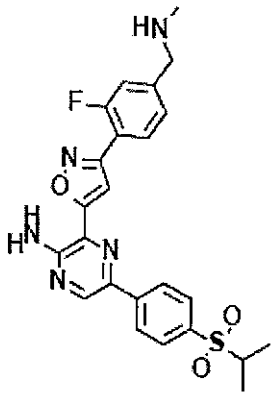
IIA-11



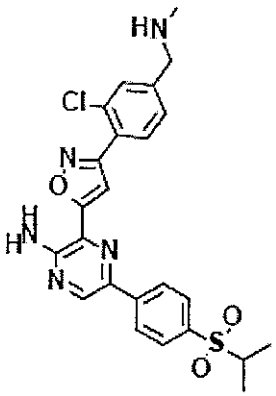
IIA-12



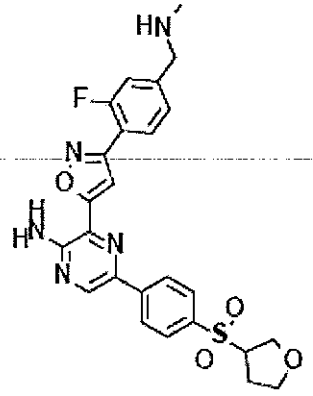
IIA-13



IIA-14

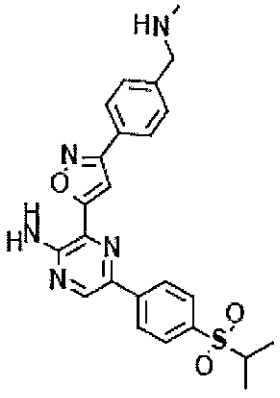


IIA-15



IIA-16

19. A compound of formula IIA-7:



IIA-7.

20. A pharmaceutical composition comprising a compound of any one of claims 1-19 and a pharmaceutically acceptable carrier.

21. A compound of any one of claims 1-19, or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition thereof, according to claim 20, for use in treating cancer in a patient.

22. The compound according to any one of claims 1-19, for use according to claim 21, comprising an additional therapeutic agent selected from cisplatin; wherein said additional therapeutic agent is appropriate for the disease being treated; and said additional therapeutic agent is administered together with said compound as a single dosage form or separately from said compound as part of a multiple dosage form.

23. The compound or composition for use according to any one of claim 21 or claim 22, wherein said cancer is a solid tumor selected from the following cancers: Oral: buccal cavity, lip, tongue, mouth, pharynx; Cardiac: sarcoma (angiosarcoma, fibrosarcoma, rhabdomyosarcoma, liposarcoma), myxoma, rhabdomyoma, fibroma, lipoma and teratoma; Lung: bronchogenic carcinoma (squamous cell or epidermoid, undifferentiated small cell, undifferentiated large cell, adenocarcinoma), alveolar (bronchiolar) carcinoma, bronchial adenoma, sarcoma, lymphoma, chondromatous hamartoma, mesothelioma; Gastrointestinal: esophagus (squamous cell carcinoma, larynx, adenocarcinoma, leiomyosarcoma, lymphoma), stomach (carcinoma, lymphoma, leiomyosarcoma), pancreas (ductal adenocarcinoma, insulinoma, glucagonoma, gastrinoma, carcinoid tumors, vipoma), small bowel or small intestines (adenocarcinoma, lymphoma, carcinoid tumors, Karposi's sarcoma, leiomyoma, hemangioma, lipoma, neurofibroma, fibroma), large bowel or large intestines (adenocarcinoma, tubular adenoma, villous adenoma, hamartoma, leiomyoma), colon, colon-rectum, colorectal; rectum, Genitourinary tract: kidney (adenocarcinoma, Wilm's tumor [nephroblastoma], lymphoma), bladder and urethra (squamous cell carcinoma, transitional cell carcinoma, adenocarcinoma), prostate (adenocarcinoma, sarcoma), testis (seminoma, teratoma, embryonal carcinoma, teratocarcinoma, choriocarcinoma, sarcoma, interstitial cell carcinoma, fibroma, fibroadenoma, adenomatoid tumors, lipoma); Liver: hepatoma (hepatocellular carcinoma), cholangiocarcinoma, hepatoblastoma, angiosarcoma, hepatocellular adenoma, hemangioma, biliary passages; Bone: osteogenic sarcoma (osteosarcoma), fibrosarcoma, malignant fibrous histiocytoma, chondrosarcoma, Ewing's sarcoma, malignant lymphoma (reticulum cell sarcoma), multiple myeloma, malignant giant

cell tumor chordoma, osteochronfroma (osteocartilaginous exostoses), benign chondroma, chondroblastoma, chondromyxofibroma, osteoid osteoma and giant cell tumors; Nervous system: skull (osteoma, hemangioma, granuloma, xanthoma, osteitis deformans), meninges (meningioma, meningiosarcoma, gliomatosis), brain (astrocytoma, medulloblastoma, glioma, ependymoma, germinoma [pinealoma], glioblastoma multiform, oligodendroglioma, schwannoma, retinoblastoma, congenital tumors), spinal cord neurofibroma, meningioma, glioma, sarcoma); Gynecological: uterus (endometrial carcinoma), cervix (cervical carcinoma, pre-tumor cervical dysplasia), ovaries (ovarian carcinoma [serous cystadenocarcinoma, mucinous cystadenocarcinoma, unclassified carcinoma], granulosa-thecal cell tumors, Sertoli-Leydig cell tumors, dysgerminoma, malignant teratoma), vulva (squamous cell carcinoma, intraepithelial carcinoma, adenocarcinoma, fibrosarcoma, melanoma), vagina (clear cell carcinoma, squamous cell carcinoma, botryoid sarcoma (embryonal rhabdomyosarcoma), fallopian tubes (carcinoma), breast; Skin: malignant melanoma, basal cell carcinoma, squamous cell carcinoma, Karposi's sarcoma, keratoacanthoma, moles dysplastic nevi, lipoma, angioma, dermatofibroma, keloids, psoriasis, Thyroid gland: papillary thyroid carcinoma, follicular thyroid carcinoma; medullary thyroid carcinoma, multiple endocrine neoplasia type 2A, multiple endocrine neoplasia type 2B, familial medullary thyroid cancer, pheochromocytoma, paraganglioma; and Adrenal glands: neuroblastoma.

24. The compound or composition for use according to claim 21, wherein said cancer is selected from lung cancer, head and neck cancer, pancreatic cancer, gastric cancer and brain cancer.

25. An *ex vivo* method of inhibiting ATR in a biological sample comprising the step of contacting a compound of any one of claims 1-19, with said biological sample.