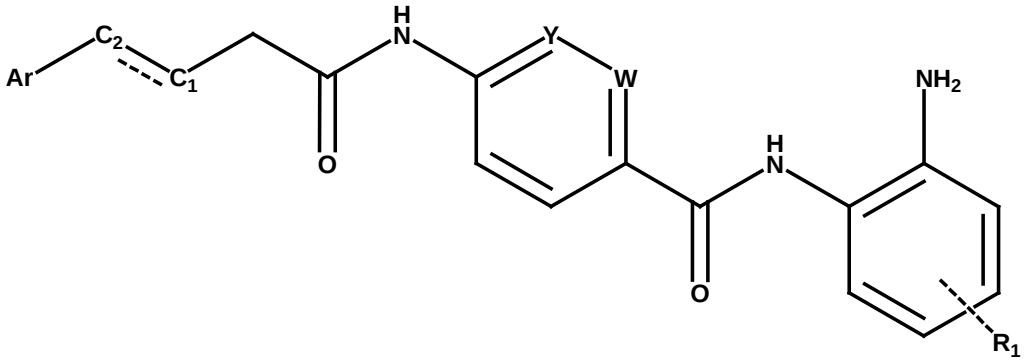
Claims

What is claimed is:

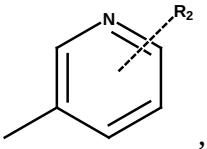
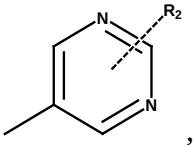
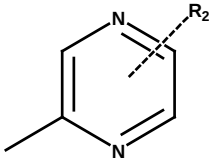
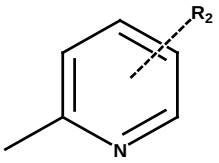
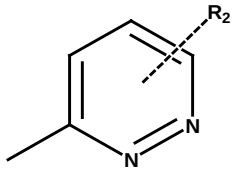
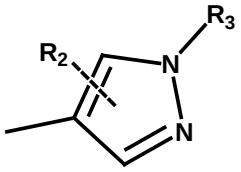
1. A compound of formula (I):



wherein W and Y are each independently selected from CH and N;

R_1 is each independently selected from hydrogen, halogen, C_1-C_3 alkyl and halogenated C_1-C_3 alkyl, and can be mono-, di-, tri- or tetra-substitution;

C_1 and C_2 are C atoms linked by ~~a single bond or~~ a double bond;

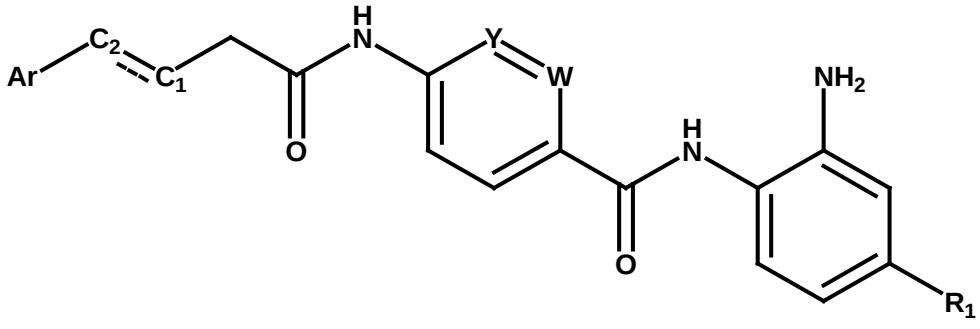
Ar is selected from the group consisting of the following: , , , , , and , wherein Ar is linked to C_2 via the solid line;

R_2 has the same meaning as described for R_1; and

R_3 is hydrogen or C_1-C_3 alkyl;

or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or solvate ~~or prodrug~~ thereof.

2. The compound of claim 1, which has the formula (Ia):



(Ia)

wherein W, Y, R_1, C_1, C_2 and Ar have the same meaning as described in formula (I); or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or solvate ~~or prodrug~~ thereof.

3. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or solvate ~~or prodrug~~ thereof, wherein Ar is selected from the six-membered rings, and R_2 and the atom of Ar linked to C_2 are at para-positions.

4. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or

solvate ~~or prodrug~~ thereof, wherein W and Y are selected from the following combinations: (1) W is N and Y is CH, (2) W is CH and Y is N, and (3) W and Y are CH.

5. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or solvate ~~or prodrug~~ thereof, wherein W is N and Y is CH.

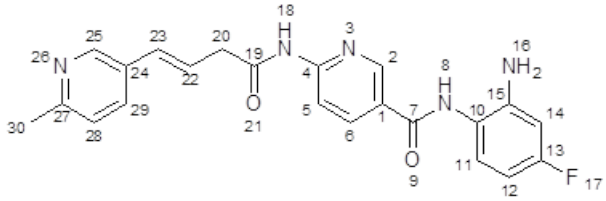
6. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or solvate ~~or prodrug~~ thereof, wherein R_1 is F or fluronated C_1-C_3 alkyl.

~~7. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer, solvate or prodrug thereof, wherein C_1 and C_2 are C atoms linked by a double bond.~~

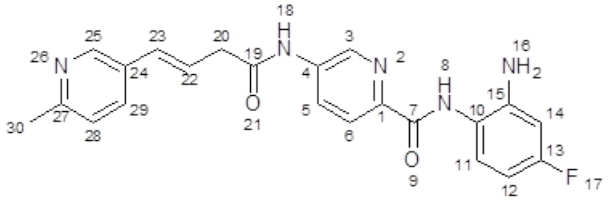
~~8. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer, solvate or prodrug thereof, wherein C_1 and C_2 are C atoms linked by a single bond.~~

~~9.~~7. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or solvate ~~or prodrug~~ thereof, wherein R_2 is C_1-C_3 alkyl or fluorinated C_1-C_3 alkyl.

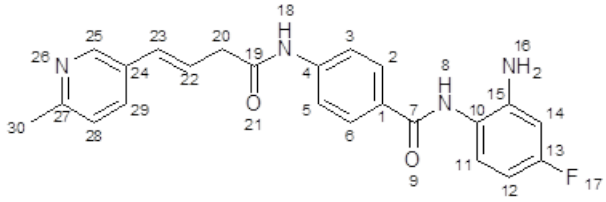
~~10.~~8. The compound of claim 1 or a pharmaceutically acceptable salt, hydrate, stereoisomer~~,~~ or solvate ~~or prodrug~~ thereof, wherein the compound is:



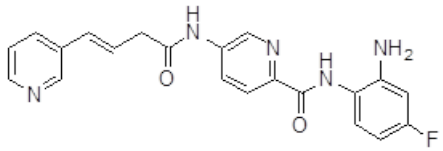
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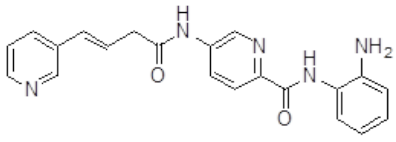
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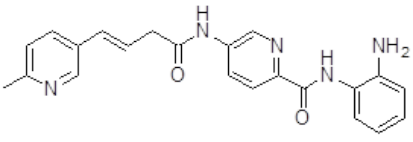
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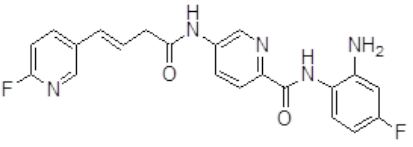
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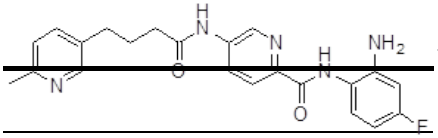
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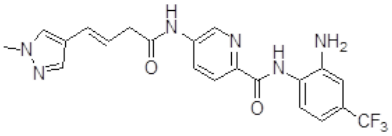
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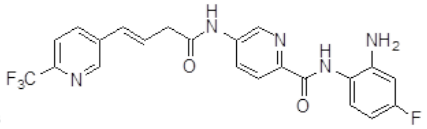
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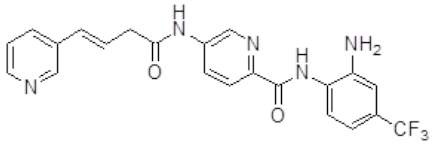
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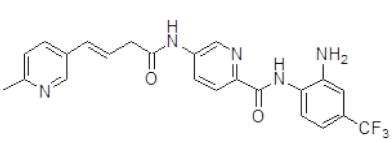
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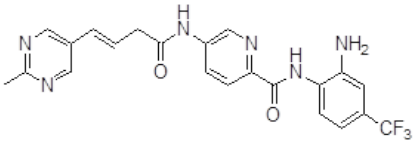
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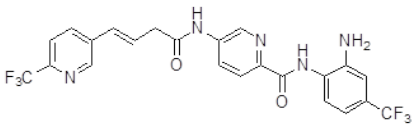
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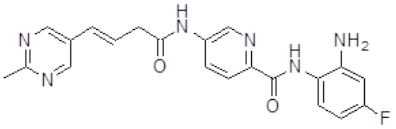
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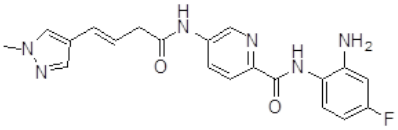
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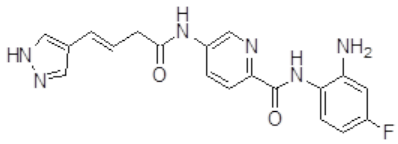
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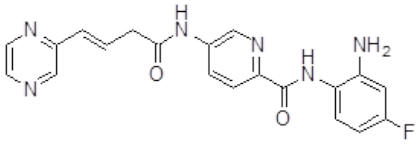
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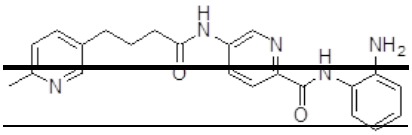
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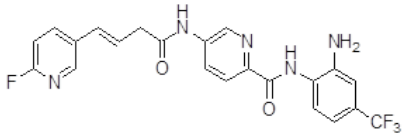
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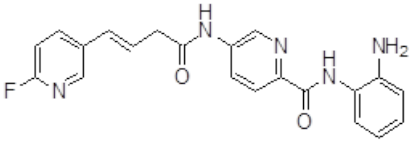
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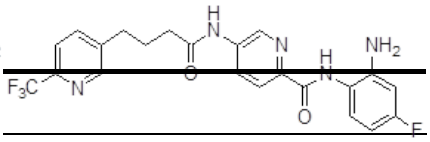
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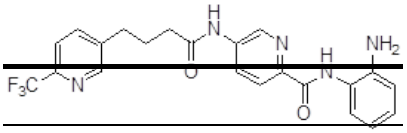
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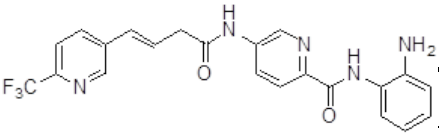
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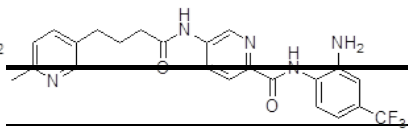
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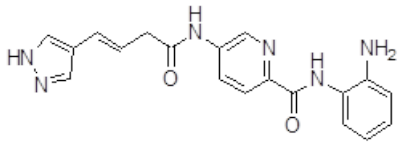
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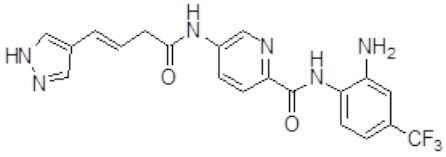
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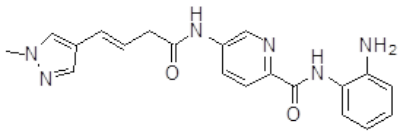
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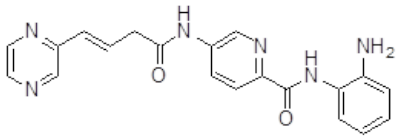
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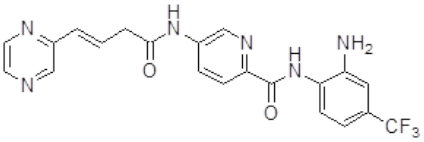
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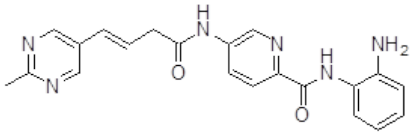
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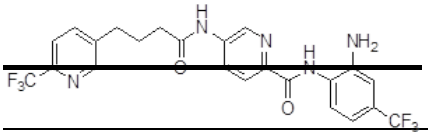
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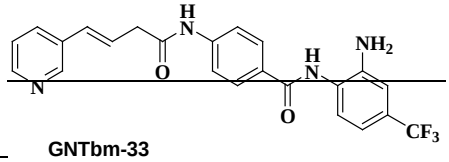
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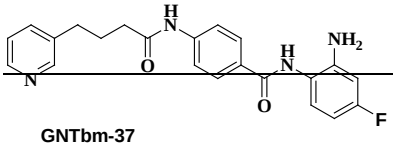


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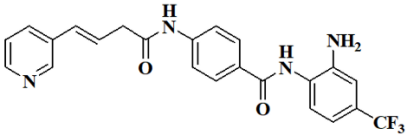
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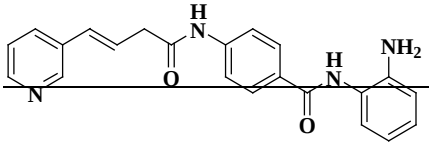


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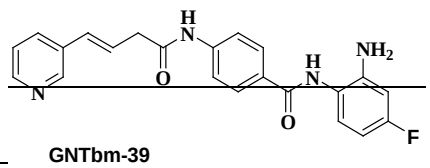
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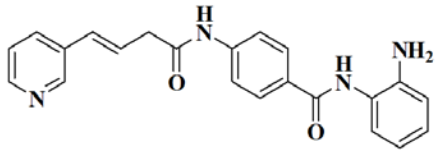
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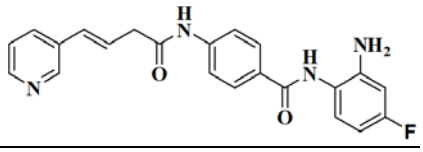
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GNTbm-39



GNTbm-38;



or GNTbm-39

~~11.~~9. A pharmaceutical composition or combination comprising the compound of any of claims 1 to ~~10~~8 or a pharmaceutically acceptable salt, hydrate, stereoisomer, solvate or prodrug thereof and a pharmaceutical acceptable carrier.

~~12.~~10. The pharmaceutical composition or combination of claim ~~11~~9, which further comprises one or more second agents.

~~13.~~11. The pharmaceutical composition or combination of claim ~~12~~10, wherein the second agent is an immune checkpoint inhibitor, an NSAID, a TKI or an anti-cancer agent or a combination thereof.

~~14.~~12. Use of the pharmaceutical composition or combination of claim ~~11~~9 in the manufacture of a medicament for epigenetic immunomodulation of tumor microenvironment (TME) and/or treatment of cancer in a subject in need thereof.

~~15.~~13. Use of claim ~~14~~12, wherein the pharmaceutical composition or combination further comprises one or more second agents.

~~16.~~14. Use of claim ~~15~~13, wherein the second agent is an immune checkpoint inhibitor, an NSAID, a TKI or an anti-cancer agent or a combination thereof.

~~17.~~15. Use of claim ~~14~~12, wherein the medicament is for inducing cell cycle arrest of tumor cells, for inducing apoptosis of tumor cells, for inducing histone H3 acetylation, for inducing immune memory, for activating CTL, for decreasing immunosuppressive cells.

~~18.~~16. Use of the pharmaceutical composition or combination of claim ~~11~~9 in the manufacture of a medicament for treating or preventing the disease associated with class I HDAC in a subject in need thereof.

~~19.~~17. Use of claim ~~18~~16, wherein the pharmaceutical composition or combination further comprises one or more second agents.

~~20.~~18. Use of claim ~~19~~17, wherein the second agent is an immune checkpoint inhibitor, an NSAID, a TKI or an anti-cancer agent or a combination thereof.