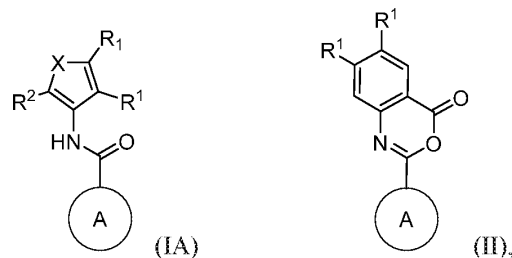


WE CLAIM:

1. A compound of formula (IA) or formula (II):



wherein

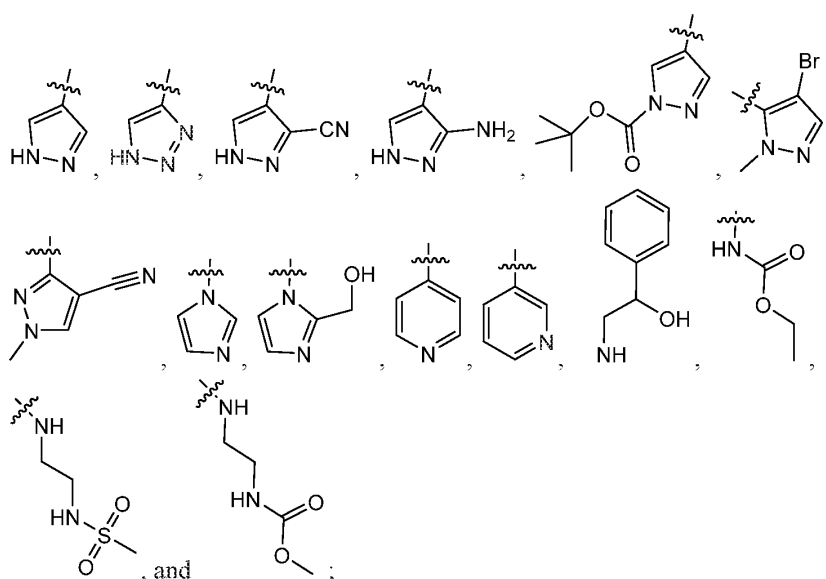
X is S, -N=C(R¹)-, or -C(R¹)=C(R¹)-;

each R¹ is independently H, F, Cl, C₁-C₆-alkyl, ethenyl or ethynyl (either of which can be substituted), cyano, alkoxy, or haloalkyl;

R² is selected from the group consisting of -C(O)OR, -C(O)NH(C₁-C₆-alkyl) (wherein the alkyl is optionally substituted), optionally substituted C₃-C₆-cycloalkenyl, and 3- to 10-membered heterocyclyl;

R is selected from the group consisting of H, alkyl optionally substituted with -((C₁-C₆-alkyl)OC(O)OC₁-C₆-alkyl) or 3- to 10-membered heterocyclyl, and benzyl, wherein the benzyl can be unsubstituted or substituted with methoxyl or with an acid or ester isostere;

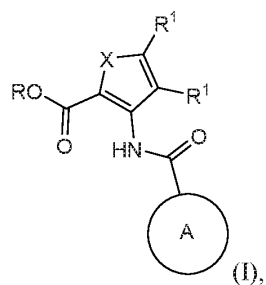
Ring A is a 5- or 6-membered heteroaryl comprising 1, 2, or 3 N atoms, unsubstituted or substituted with 1, 2, or 3 groups independently selected from the group consisting of NH₂, NH-benzyl (wherein the benzyl is unsubstituted or is substituted with methoxyl, cyano, alkynitrile, haloalkyl, hydroxymethyl, aminomethyl, aminopropyl, carboxamido, or alkoxy),



wherein a wavy line indicates a position of bonding;

or a pharmaceutically acceptable salt thereof.

2. The compound according to claim 1, wherein the compound of formula (IA) is of formula (I):



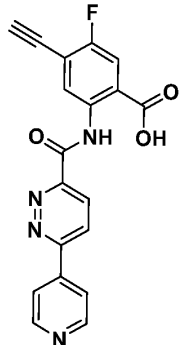
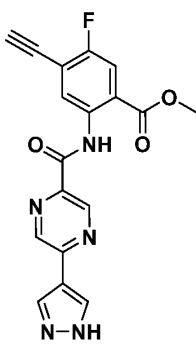
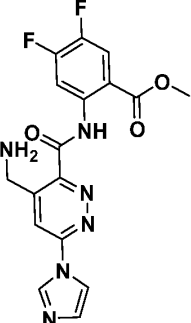
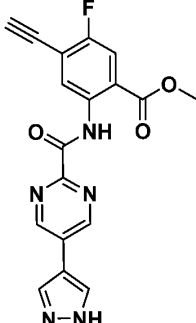
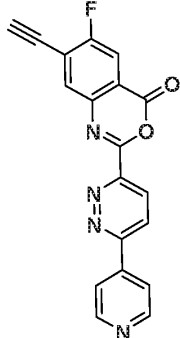
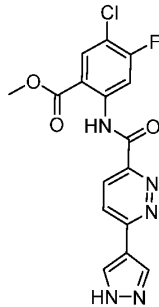
wherein

X is S, -N=C(R¹)-, or -C(R¹)=C(R¹)-;

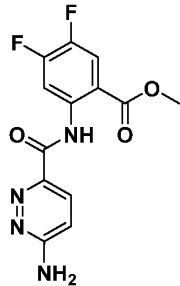
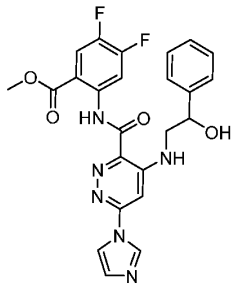
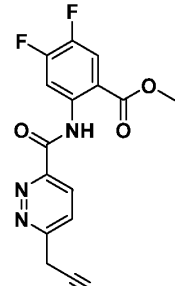
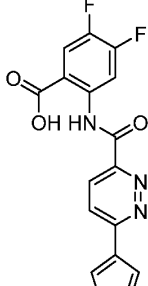
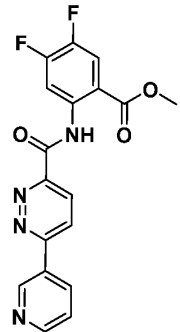
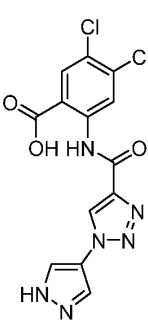
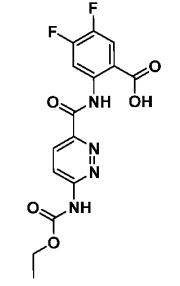
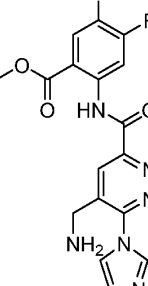
each R¹ is independently H, F, Cl, ethenyl or ethynyl (either of which can be substituted), cyano, alkoxy, or haloalkyl; and

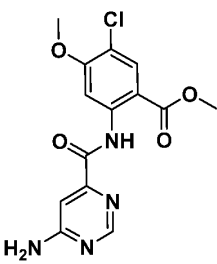
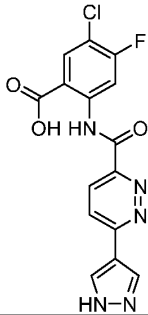
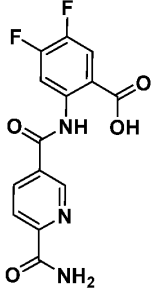
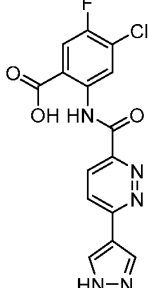
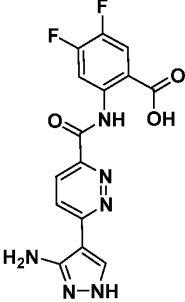
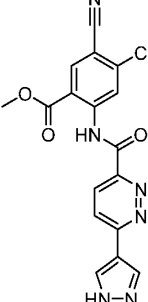
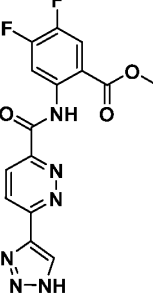
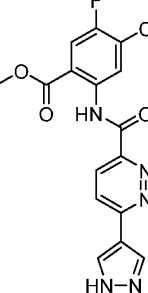
R is H, alkyl, or benzyl, wherein the benzyl can be unsubstituted or substituted with methoxy or with an acid or ester isostere.

3. The compound according to claim 1, wherein the compound is of formula (II).
4. The compound according to any one of claims 1 to 3, wherein ring A comprises any one of pyridazinyl, triazolyl, pyrimidinyl, and pyridinyl, any of which can be unsubstituted or substituted.
5. The compound according to claim 1, wherein the compound is one selected from the following table:

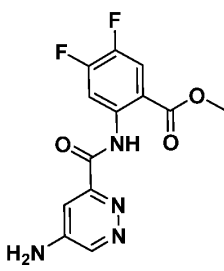
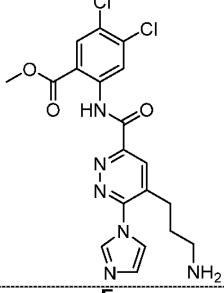
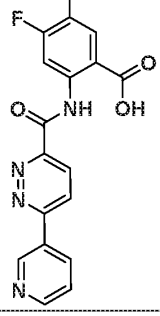
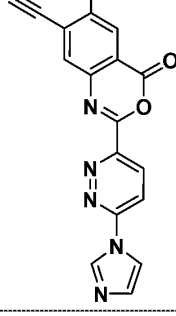
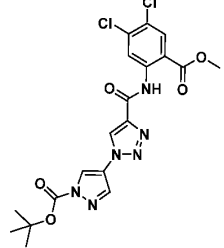
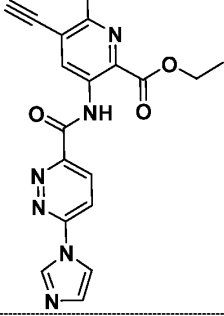
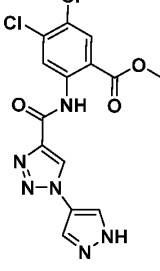
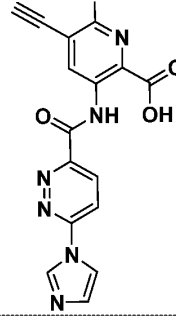
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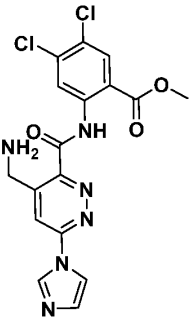
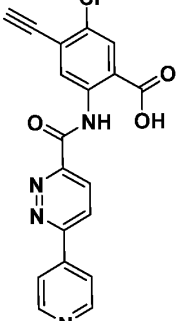
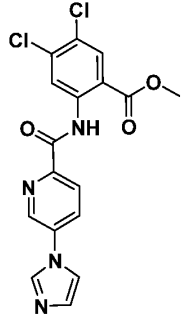
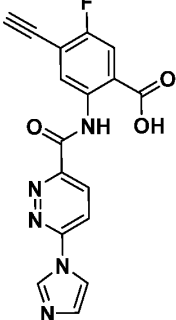
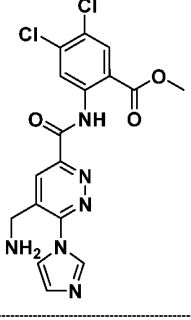
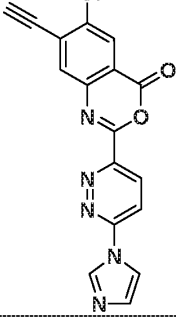
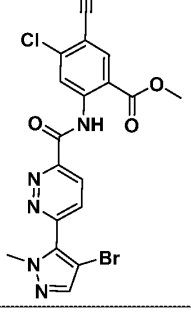
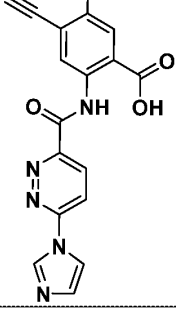
4	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>	58	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>
5	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>	59	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>
6	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>	60	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>
7	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>	61	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2ccc(cc2)n3cc(CO)cn3</chem>

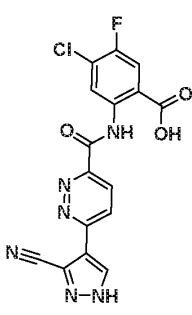
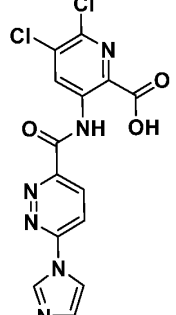
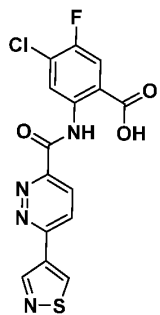
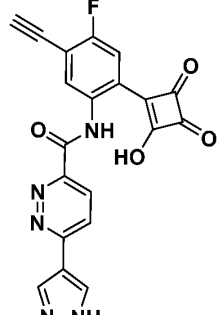
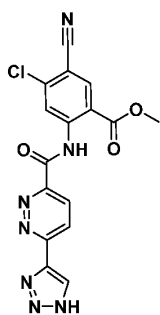
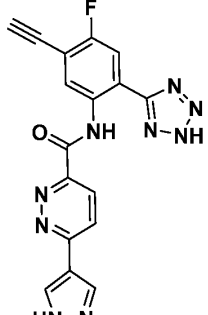
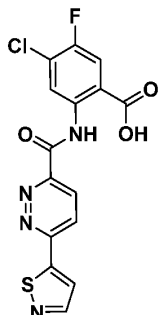
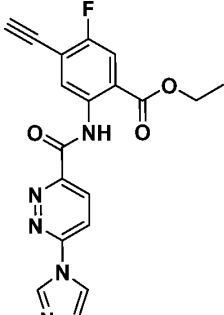
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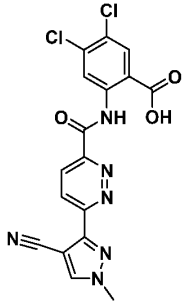
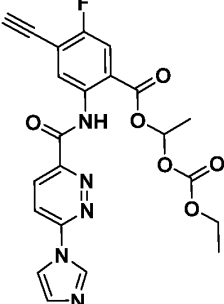
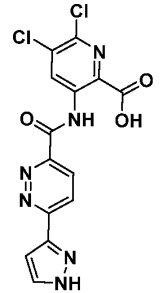
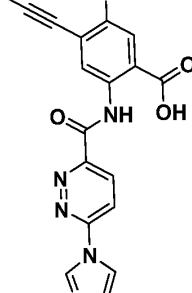
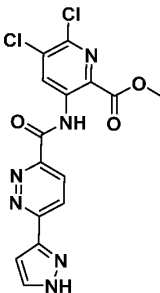
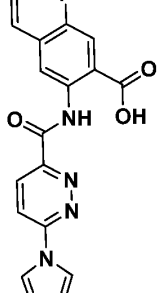
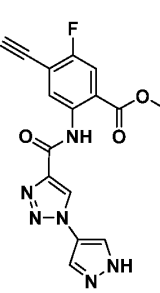
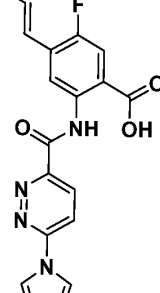
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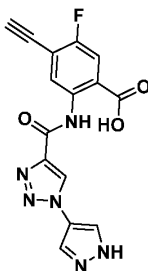
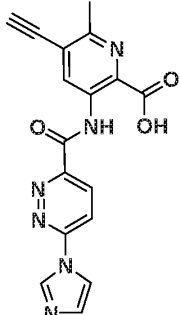
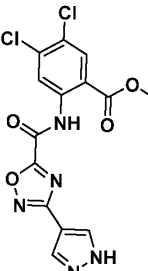
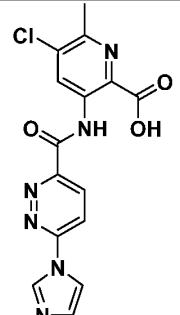
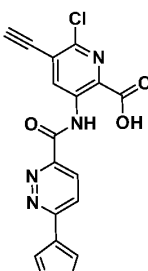
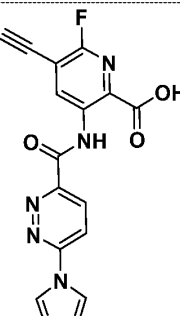
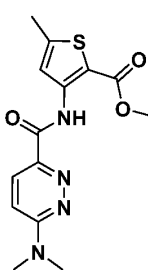
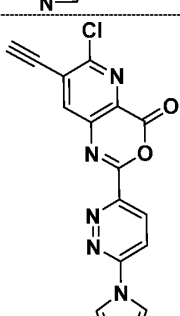
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17	 <chem>COC(=O)c1cc(F)c(F)cc1NC(=O)c2cc(CO)ccn2</chem>	71	 <chem>COC(=O)c1cc(N#C)cc(C(=O)Nc2ccncc2c3cc(C#N)nn3)c1</chem>
18	 <chem>COC(=O)c1cc(Cl)c(Cl)cc1NC(=O)c2cc(N)ccn2</chem>	72	 <chem>N#Cc1cc(Cl)cc(C(=O)O)c1NC(=O)c2ccncc2c3cc[nH]3</chem>
19	 <chem>OC(=O)c1cc(F)c(F)cc1NC(=O)c2ccncc2c3cc(OC)nn3</chem>	73	 <chem>COC(=O)c1cc(Cl)cc(C(=O)Nc2ccncc2c3cc(C#N)nn3)c1</chem>

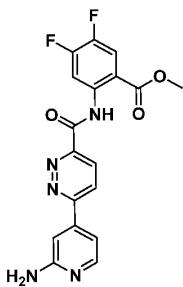
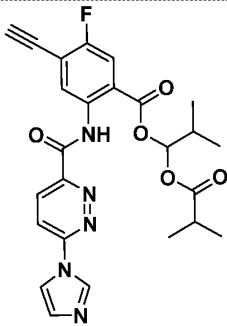
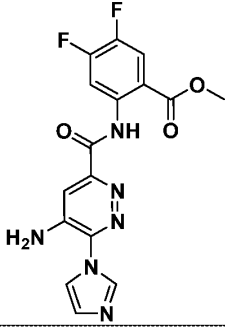
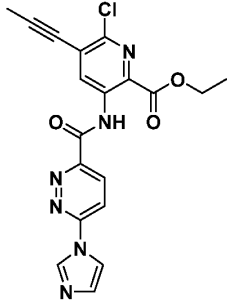
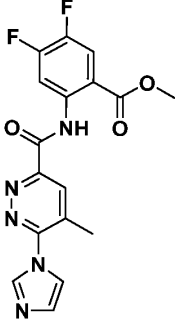
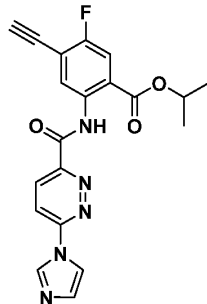
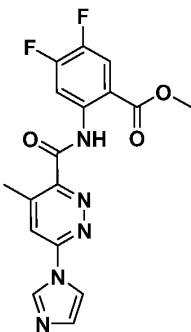
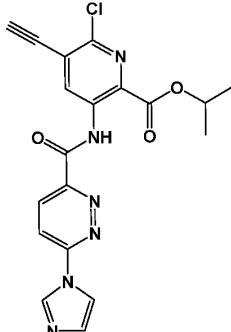
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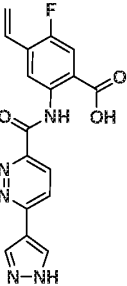
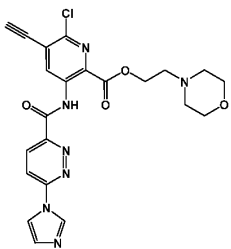
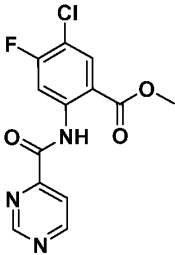
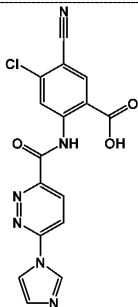
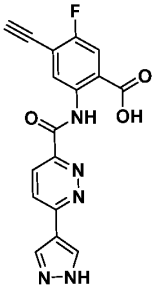
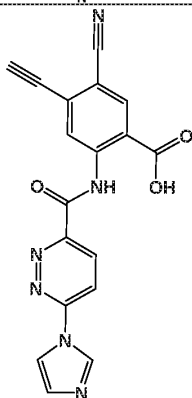
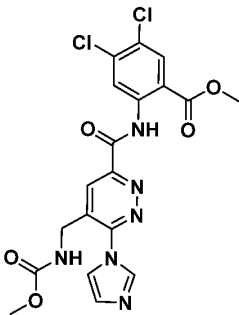
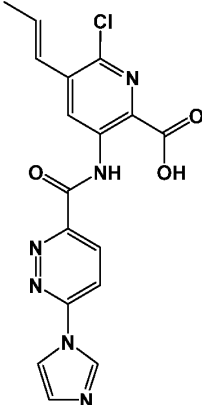
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26		80	
27		81	

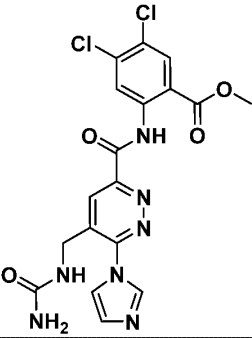
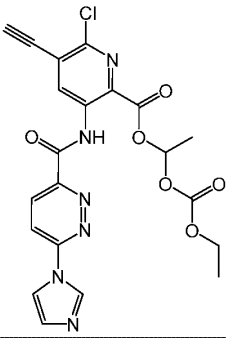
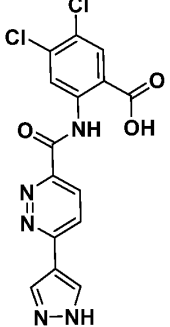
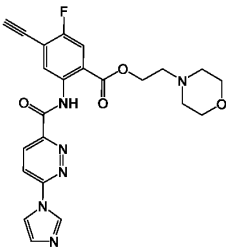
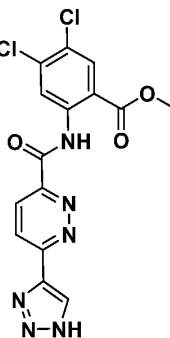
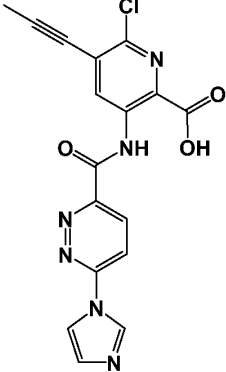
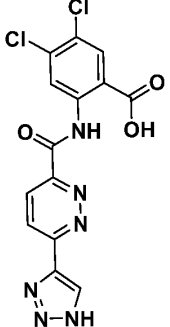
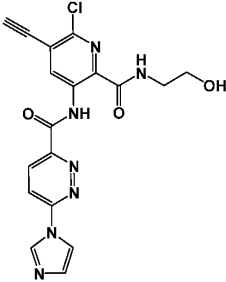
28		82	
29		83	
30		84	
31		85	

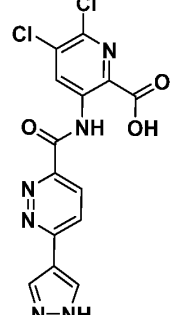
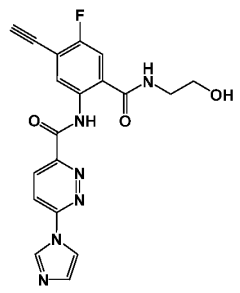
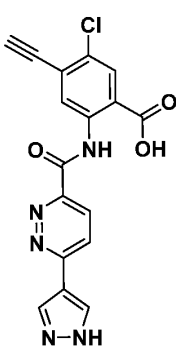
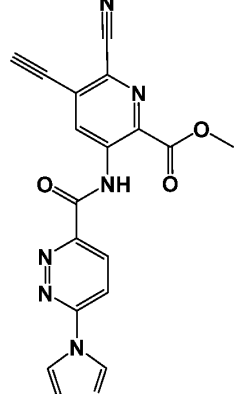
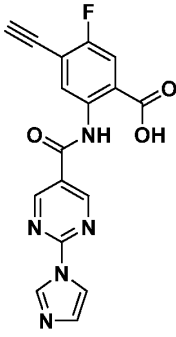
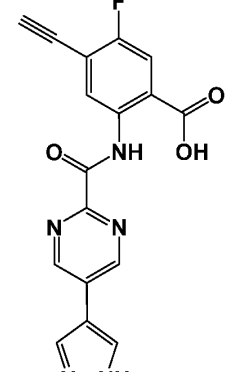
32		86	
33		87	
34		88	
35		89	

36		90	
37		91	
38		92	
39		93	

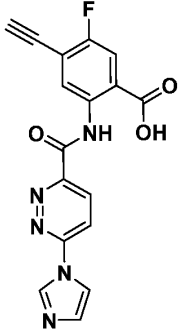
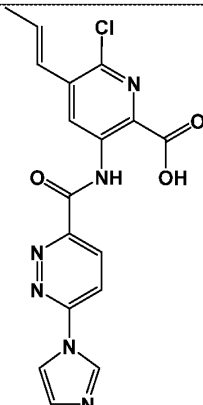
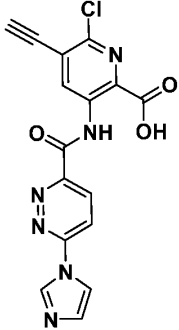
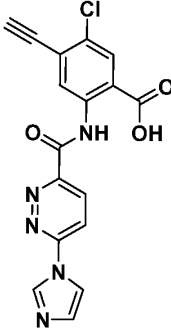
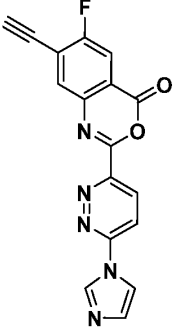
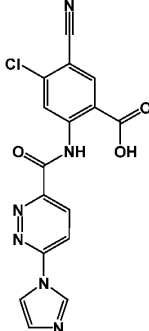
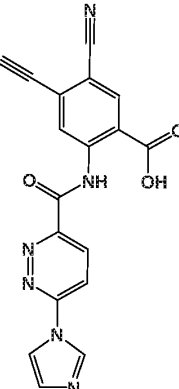
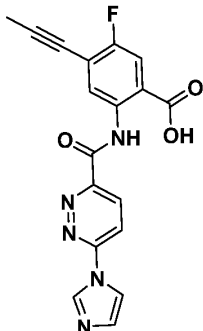
40		94	
41		95	
42		96	
43		97	

44		98	
45		99	
46		100	
47		101	

48		102	
49		103	
50		104	
51		105	

52		106	
53		107	
54		108	

6. The compound according to claim 1, wherein the compound is one selected from the following table:

79		101	
77		81	
75		99	
100		87	

7. A method of stimulating expression of interferon genes in a human patient, comprising administering to the patient an effective dose of a compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 6.
8. A method of treating a tumor in a patient, comprising administering to the patient an effective dose of a compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 6.
9. The method according to claim 7 or 8, wherein the administering comprises oral or intratumoral administration, or both.
10. The method according to claim 7 or 8, wherein administering comprises administering the compound to the patient as an antibody-drug conjugate or in a liposomal formulation.
11. The method according to claim 7 or 8, further comprising administering an effective dose of an immune-checkpoint targeting drug.
12. The method according to claim 11, wherein the immune-checkpoint targeting drug comprises an anti-PD-L1 antibody, anti-PD-1 antibody, anti-CTLA-4 antibody, or an anti-4-1BB antibody.
13. The method according to claim 7 or 8, further comprising administering ionizing radiation or anticancer drugs.
14. A pharmaceutical composition comprising a compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 6 and a pharmaceutically acceptable carrier.
15. A compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 6 for use in a method of stimulating expression of interferon genes in a human patient.
16. A compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 6 for use in a method of treating a tumor in a patient.

17. The compound for use according to claim 15 or 16, wherein the compound is administered to the patient by oral or intratumoral administration, or both.