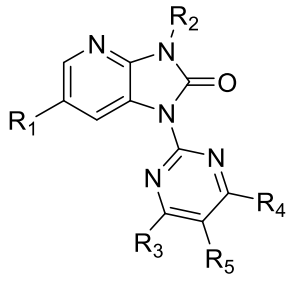
What is claimed is:

1. A compound of formula (I) or a pharmaceutically acceptable salt thereof,



(I),

wherein R_1 is H, F, or Cl;

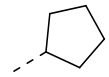
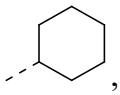
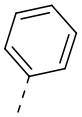
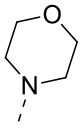
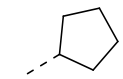
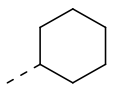
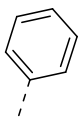
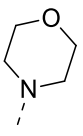
R_2 is C_{1-6} alkyl, -CH_2-phenyl, -CH_2-pyridyl, or -CH_2-pyrimidinyl, wherein the C_{1-6} alkyl, -CH_2-phenyl, -CH_2-pyridyl, or -CH_2-pyrimidinyl are each independently and optionally substituted by 1, 2, 3, 4, or 5 R_a;

each R_a is independently H, F, Cl, Br, I, -OH, -CN, -NH_2, -NO_2, -CF_2CF_3, -C(=O)OH, C_{1-3} alkoxy, or C_{1-3} alkyl optionally substituted by 1, 2, or 3 substituents independently selected from F, Cl, Br, I, -OH, -CN, -NH_2, and -OCH_3;

R_3 and R_4 are each independently H, F, Cl, Br, I, -OH, -CN, or -NH_2;

R_5 is -L-R_b;

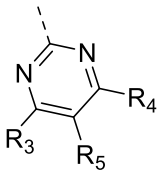
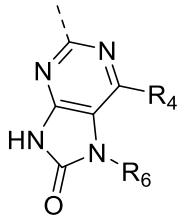
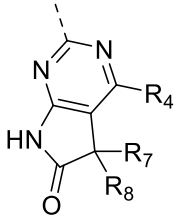
L is a single bond, -NR_cC(=O)O-, or -NR_cC(=O)-;

R_b is C_{1-6} alkyl, , , , , or , wherein the C_{1-6} alkyl, , , , , and  are each independently and optionally substituted by 1, 2, or 3 R;

R_c is H, -CH_3, or -CH_2CH_3;

each R is independently F, Cl, Br, I, -OH, -CN, -NH_2, -NO_2, C_{1-3} alkoxy, or C_{1-3} alkyl optionally substituted by 1, 2, or 3 substituents independently selected from F, Cl, Br, I, -OH, -CN, -NH_2, and -OCH_3;

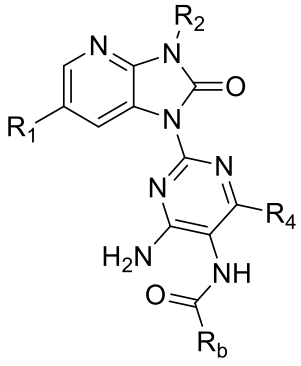
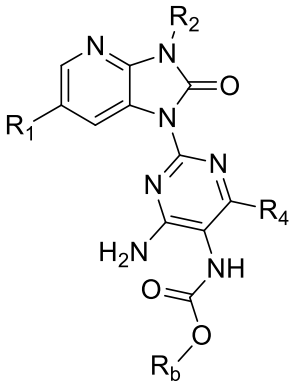
alternatively, R_3 and R_5 are linked with the carbon atom to which they are attached, so that

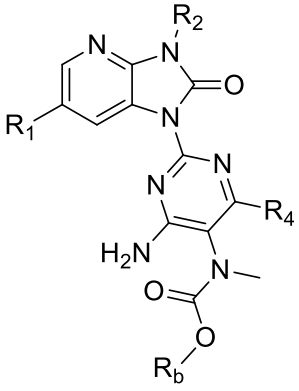
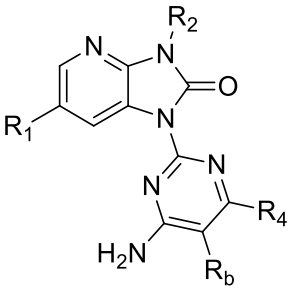
the structural moiety  is selected from  and ;

R_6, R_7, and R_8 are each independently F, Cl, Br, I, -OH, -CN, $-NH_2$, $-NO_2$, or C_{1-3} alkyl optionally substituted by 1, 2, or 3 substituents independently selected from F, Cl, Br, I, -OH, -CN, $-NH_2$, and $-OCH_3$.

2. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein the L is a single bond, -NH-C(=O)O-, -NH-C(=O)-, $-N(CH_3)$-C(=O)O-, or $-N(CH_3)$-C(=O)-.

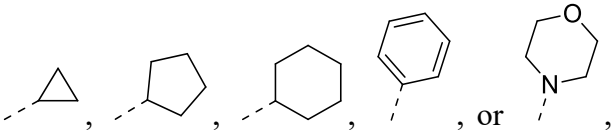
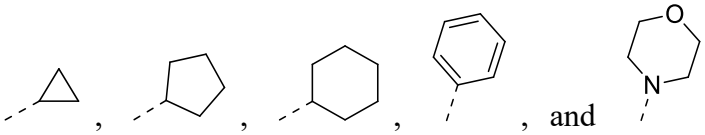
3. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein the compound has a structure of formulas (I-1) to (I-4):

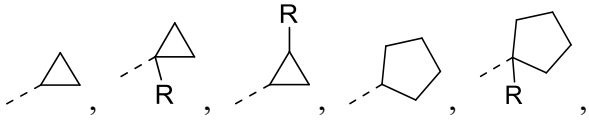
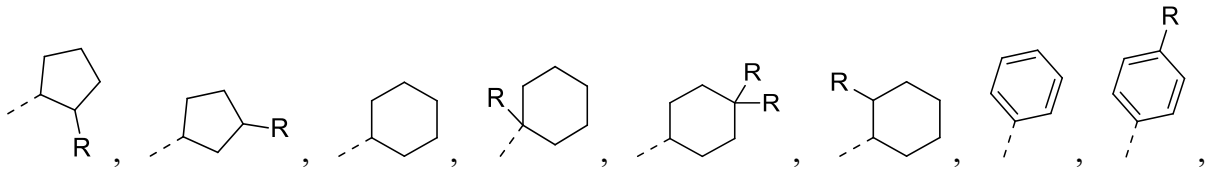
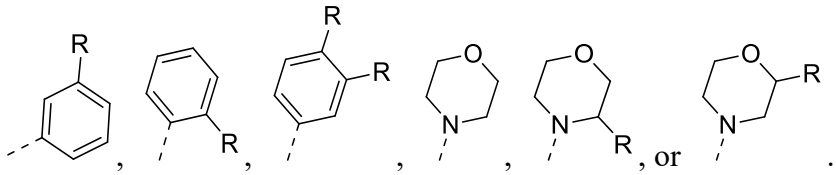
 (I-1),  (I-2),

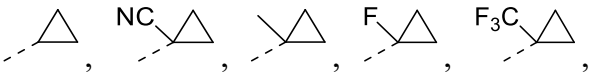
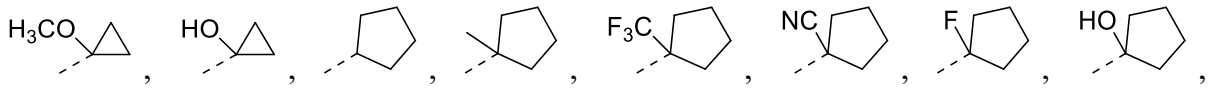
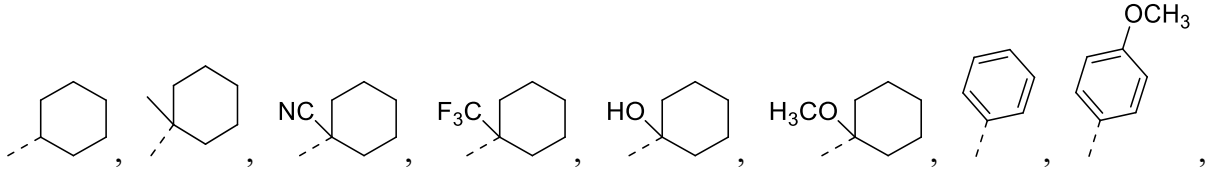
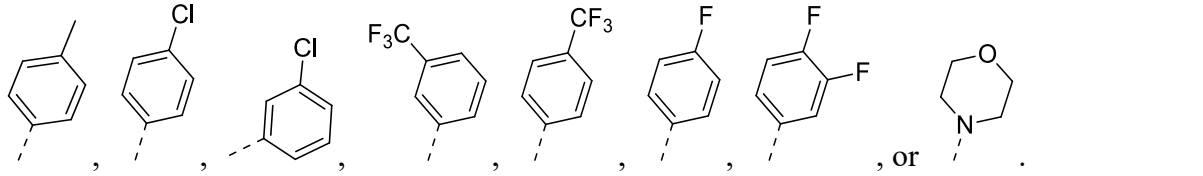
 (I-3), or  (I-4),

wherein R_1, R_2, R_4, and R_b are as defined in claim 1.

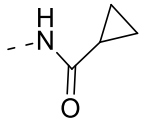
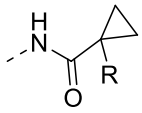
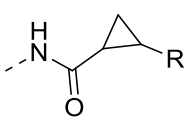
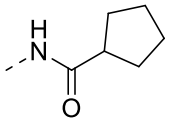
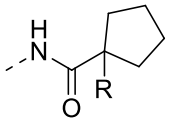
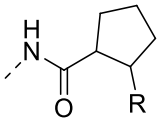
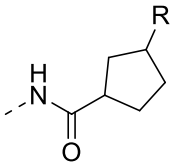
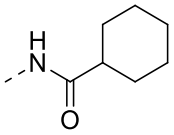
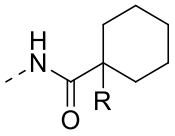
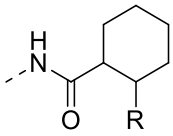
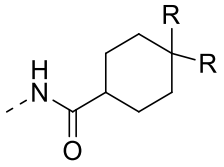
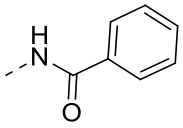
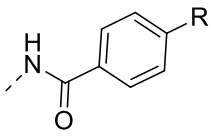
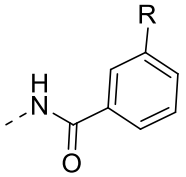
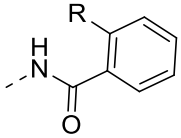
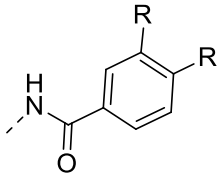
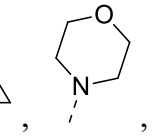
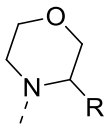
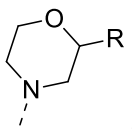
4. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein each R is independently F, Cl, Br, -OH, -CN, $-NH_2$, $-NO_2$, $-CH_3$, $-CH_2CH_3$, $-OCH_3$, $-OCH_2CH_3$, $-CF_3$, $-CH_2CF_3$, $-CH_2CH_2CF_3$, $-CH_2OH$, or $-CH_2CH_2OH$.

5. The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 4, wherein the R_b is C_{1-4} alkyl, , wherein the C_{1-4} alkyl, , and are each independently and optionally substituted by 1, 2, or 3 R.

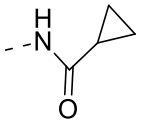
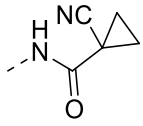
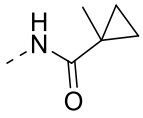
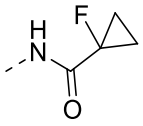
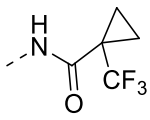
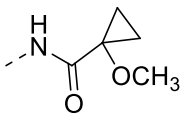
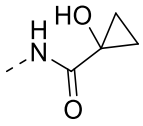
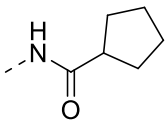
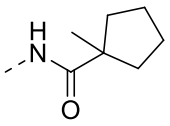
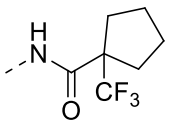
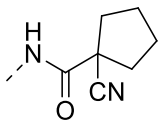
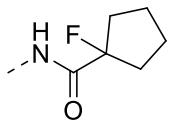
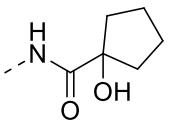
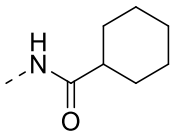
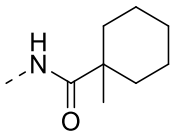
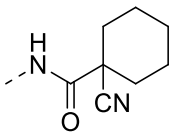
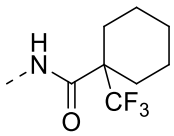
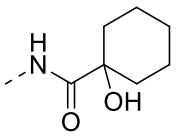
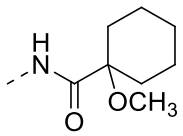
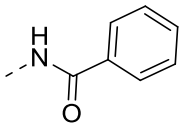
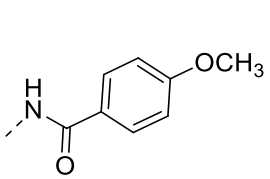
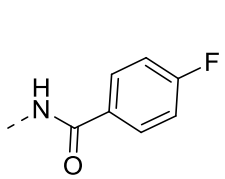
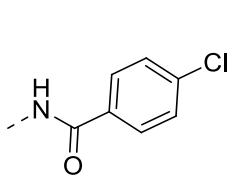
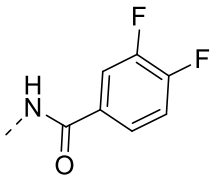
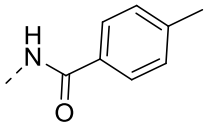
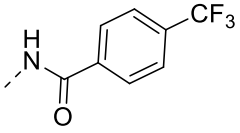
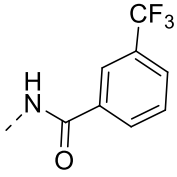
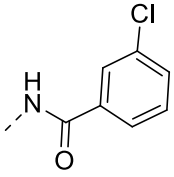
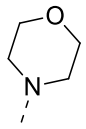
6. The compound or the pharmaceutically acceptable salt thereof according to claim 5, wherein the R_b is $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-CH_2CH_2CH_2CH_3$, $-CH(CH_3)CH_2CH_3$, $-CH_2CH(CH_3)_2$, $-C(CH_3)_3$, , , , or .

7. The compound or the pharmaceutically acceptable salt thereof according to claim 4 or 6, wherein the R_b is $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-CH_2CH_2CH_2CH_3$, $-CH(CH_3)CH_2CH_3$, $-CH_2CH(CH_3)_2$, $-C(CH_3)_3$, , , , , or .

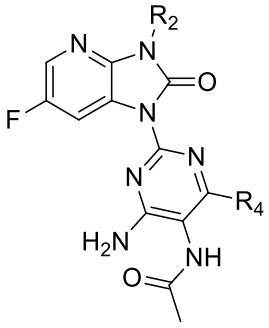
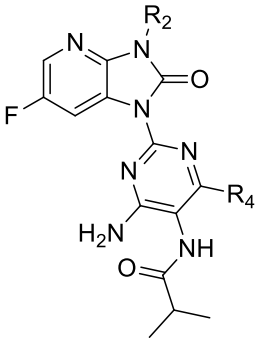
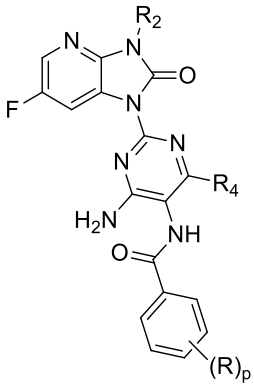
8. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein the R_5 is -NH-C(=O)O-C_{1-4} alkyl, -NHC(=O)-C_{1-4} alkyl, -N(CH_3)-C(=O)O-C_{1-4} alkyl, -NH-C(=O)-(C_{3-6} cycloalkyl), -N(CH_3)C(=O)-(C_{3-6} cycloalkyl), -NH-C(=O)-phenyl, or -N(CH_3)-C(=O)-phenyl, wherein the NH-C(=O)O-C_{1-4} alkyl, -NHC(=O)-C_{1-4} alkyl, -N(CH_3)-C(=O)O-C_{1-4} alkyl, -NH-C(=O)-(C_{3-6} cycloalkyl), -N(CH_3)C(=O)-(C_{3-6} cycloalkyl), -NH-C(=O)-phenyl, and -N(CH_3)-C(=O)-phenyl are each independently and optionally substituted by 1, 2, or 3 R.

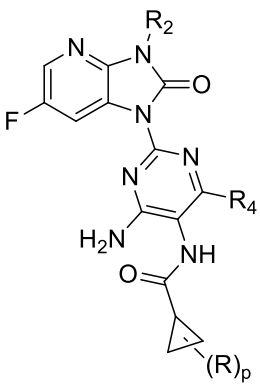
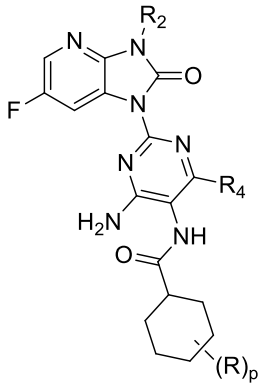
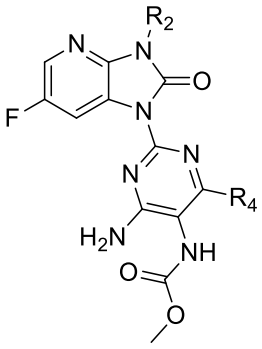
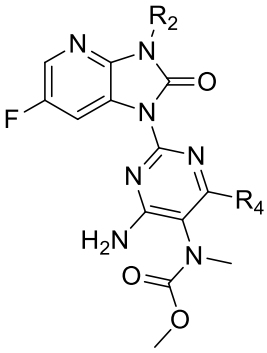
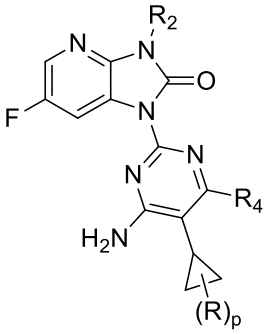
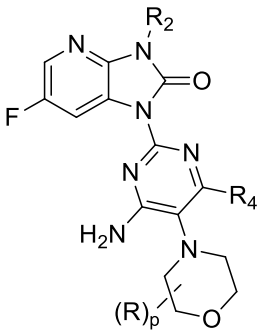
9. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein the R_5 is -NH-C(=O)O-CH_3, -NH-C(=O)O-CH_2CH_3, -NH-C(=O)O-$CH_2CH_2CH_3$, -NH-C(=O)O-$CH(CH_3)_2$, -NH-C(=O)-CH_3, -NH-C(=O)-CH_2CH_3, -NH-C(=O)-$CH_2CH_2CH_3$, -NH-C(=O)-$CH(CH_3)_2$, -N(CH_3)-C(=O)O-CH_3, -N(CH_3)-C(=O)O-CH_2CH_3, -N(CH_3)-C(=O)O-$CH_2CH_2CH_3$, -N(CH_3)-C(=O)O-$CH(CH_3)_2$, , , , , , , , , , , , , , , , , , , , , or .

10. The compound or the pharmaceutically acceptable salt thereof according to claim 9, wherein the R_5 is -NH-C(=O)O-CH_3, -NH-C(=O)O-CH_2CH_3, -NH-C(=O)O-$CH_2CH_2CH_3$, -NH-C(=O)O-$CH(CH_3)_2$, -NH-C(=O)-CH_3, -NH-C(=O)-CH_2CH_3, -NH-C(=O)-$CH_2CH_2CH_3$, -

NH-C(=O)-CH(CH$_3$)$_2$, -N(CH$_3$)-C(=O)O-CH$_3$, -N(CH$_3$)-C(=O)O-CH$_2$CH$_3$, -N(CH$_3$)-C(=O)O-CH$_2$CH$_2$CH$_3$, -N(CH$_3$)-C(=O)O-CH(CH$_3$)$_2$, , , , , , , , , , , , , , , , , , , , , , , , , , , , , , or .

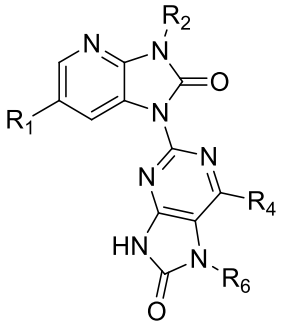
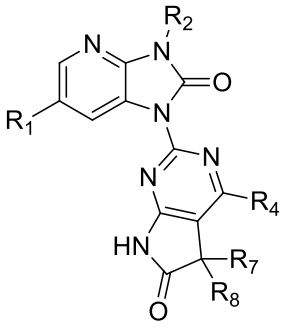
11. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein the compound has a structure of formulas (I-5) to (I-13):

 (I-5),  (I-6),  (I-7),


(I-8),

(I-9),

(I-10),

(I-11),

(I-12), or

(I-13),

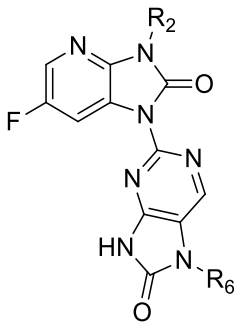
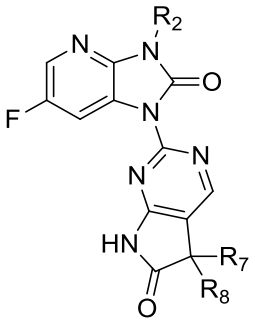
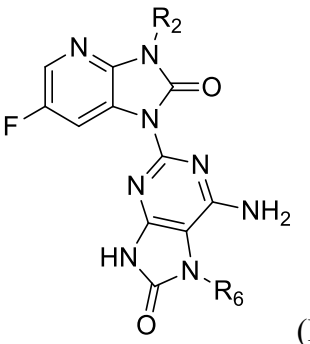
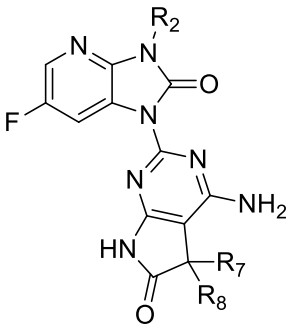
wherein p is 0, 1, or 2; R_4 is H or $-NH_2$; R_2 is as defined in claim 1; R is as defined in claim 1 or 4.

12. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein the compound has a structure of formulas (I-14) to (I-15):

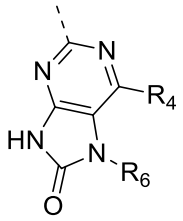
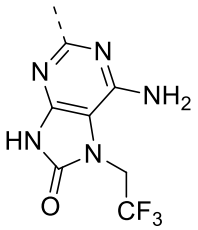
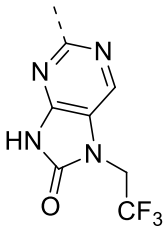
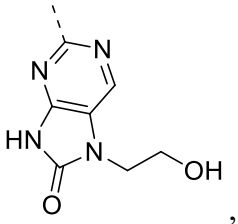
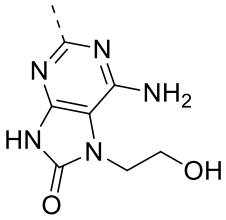

(I-14) or

(I-15),

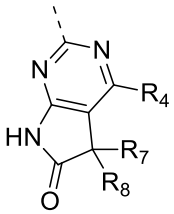
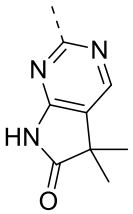
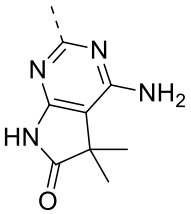
wherein R_1, R_2, R_4, R_6, R_7, and R_8 are as defined in claim 1.

13. The compound or the pharmaceutically acceptable salt thereof according to claim 12, wherein the compound has a structure of formulas (I-16) to (I-19):


(I-16),

(I-17),

(I-18), or

(I-19),

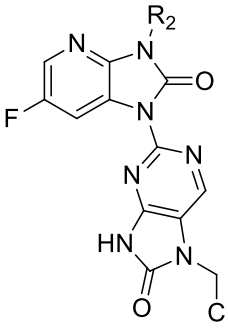
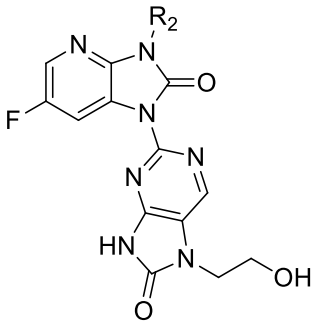
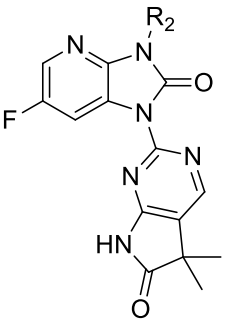
wherein R_2, R_6, R_7, and R_8 are as defined in claim 12.

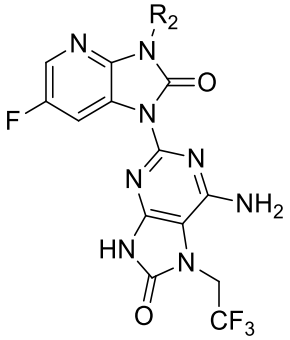
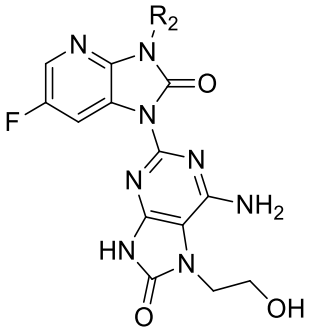
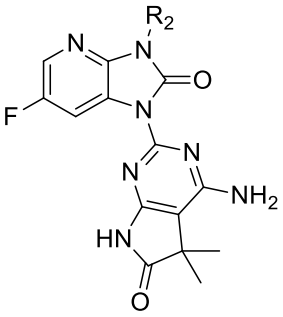
14. The compound or the pharmaceutically acceptable salt thereof according to claim 1 or 12, wherein the structural moiety  is , , , or .

15. The compound or the pharmaceutically acceptable salt thereof according to claim 1 or 12, wherein the structural moiety  is  or .

16. The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1, 12, or 13, wherein the R_6, R_7, and R_8 are each independently F, Cl, Br, I, -OH, -CN, $-NH_2$, $-NO_2$, $-CH_3$, $-CH_2CH_3$, $-CF_3$, $-CH_2CF_3$, or $-CH_2CH_2OH$.

17. The compound or the pharmaceutically acceptable salt thereof according to claim 13, wherein the compound has a structure of formulas (I-20) to (I-25):

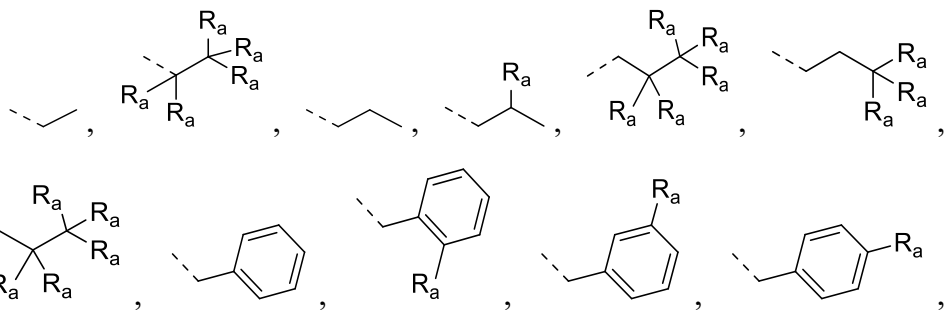
 (I-20),  (I-21),  (I-22),

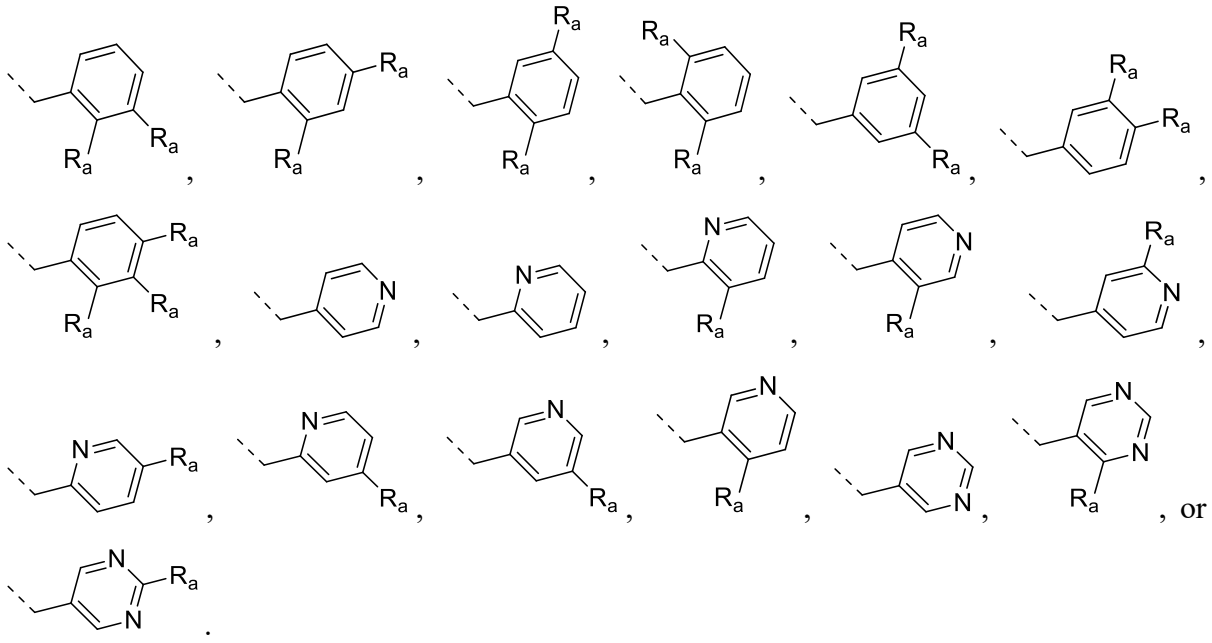
 (I-23),  (I-24), or  (I-25),

wherein R_2 is as defined in claim 13.

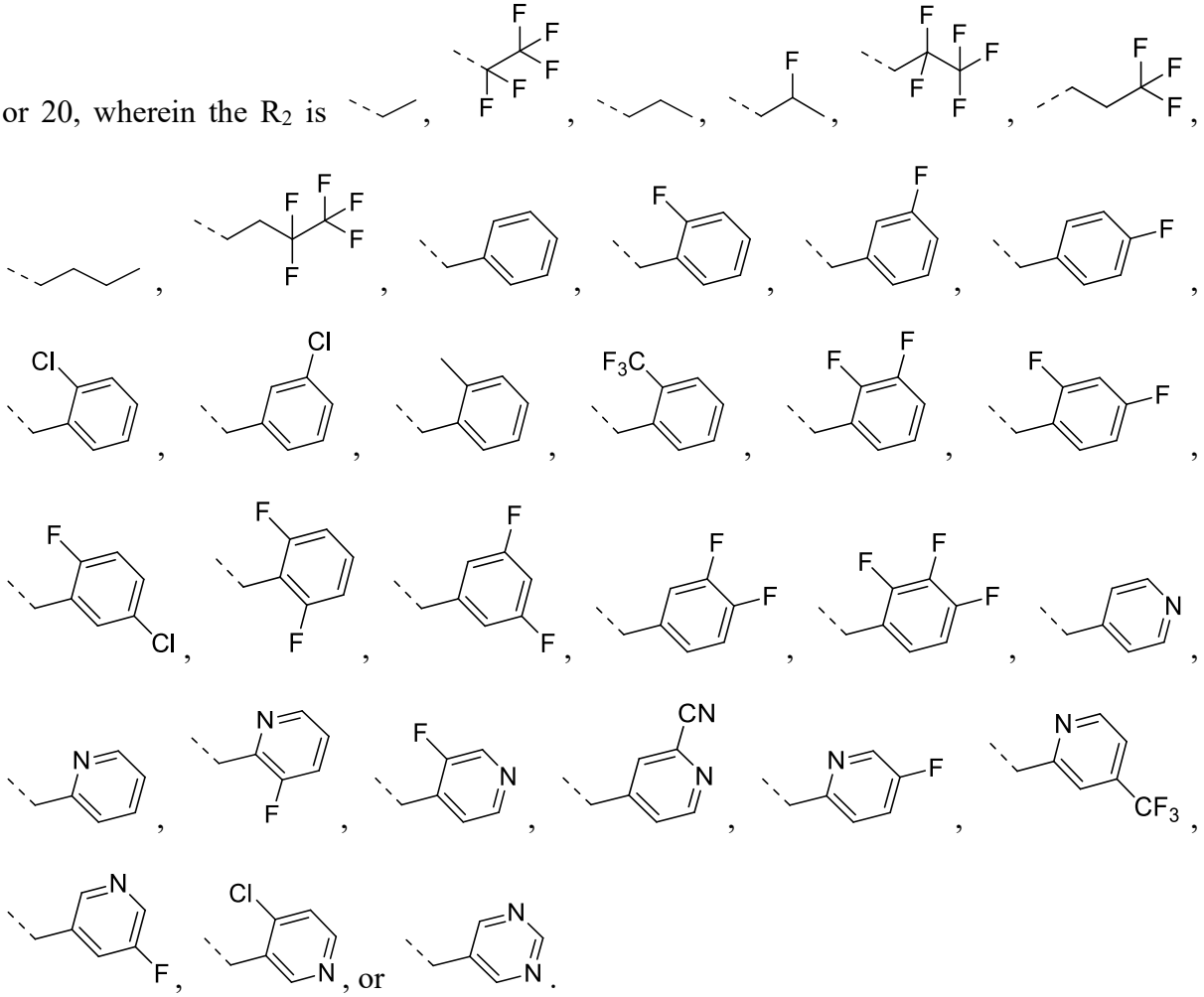
18. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein each R_a is independently H, F, Cl, Br, I, -OH, -CN, -NH_2, -NO_2, -C(=O)OH, -CH_3, -CH_2CH_3, -$CH_2CH_2CH_3$, -$CH(CH_3)_2$, -OCH_3, -OCH_2CH_3, -CF_3, -CH_2CF_3, -CF_2CF_3, -$CH_2CH_2CF_3$, -CH_2OH, or -CH_2CH_2OH.

19. The compound or the pharmaceutically acceptable salt thereof according to claim 18, wherein each R_a is independently H, F, Cl, or -CF_3.

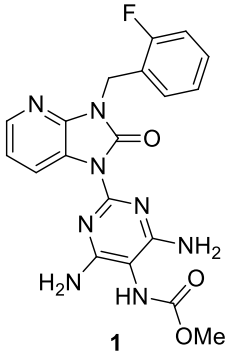
20. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein the R_2 is 



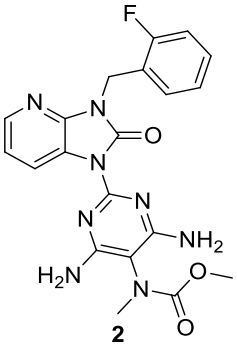
21. The compound or the pharmaceutically acceptable salt thereof according to claim 18 or 20, wherein the R_2 is



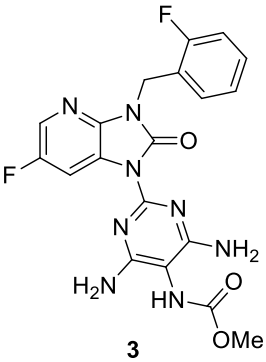
22. A compound of the following formula or a pharmaceutically acceptable salt thereof:



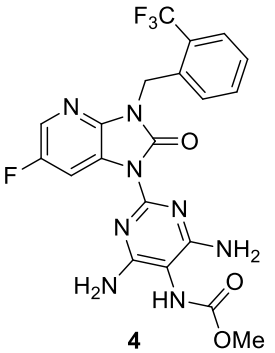
1,



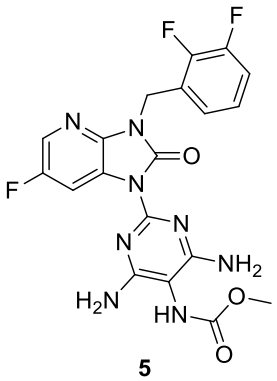
2,



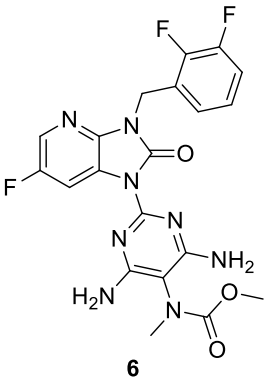
3,



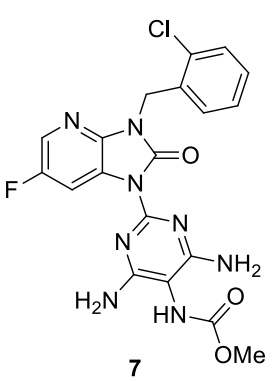
4,



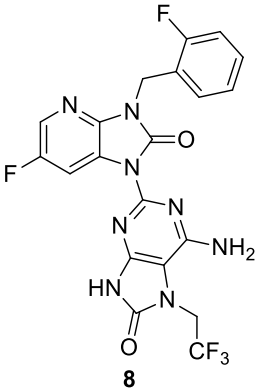
5,



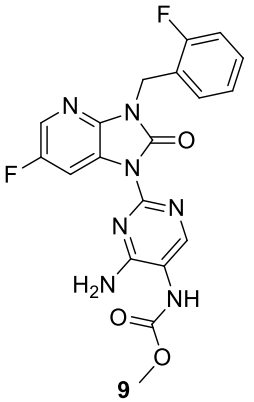
6,



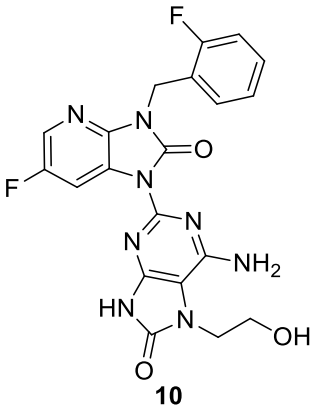
7,



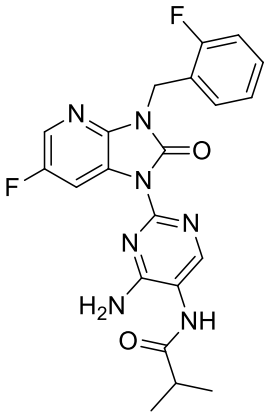
8,



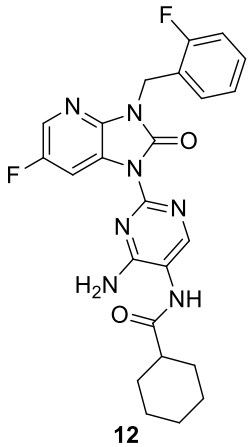
9,



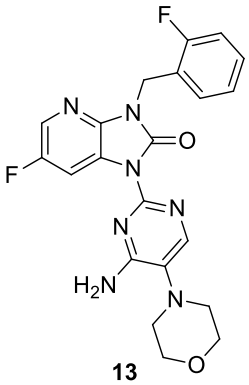
10,



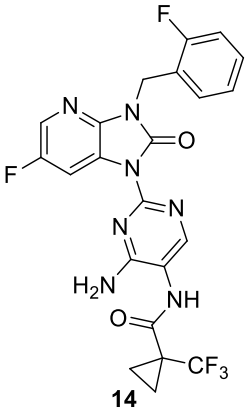
11,



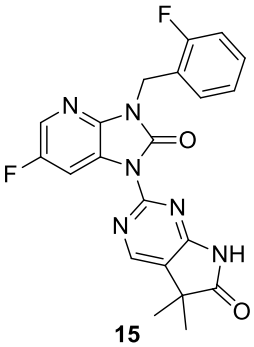
12,



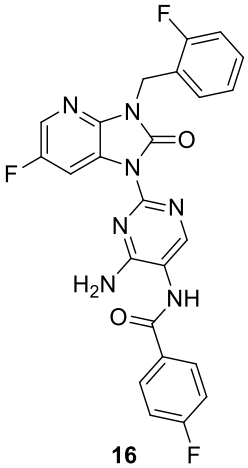
13,



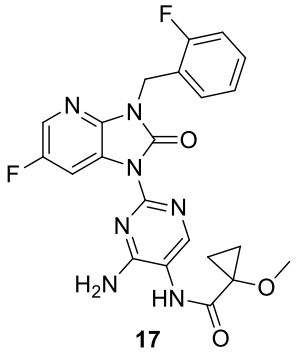
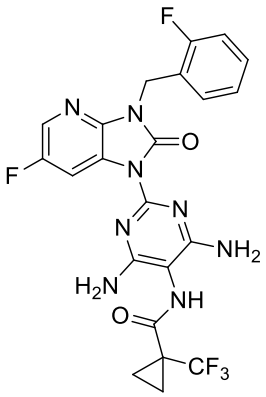
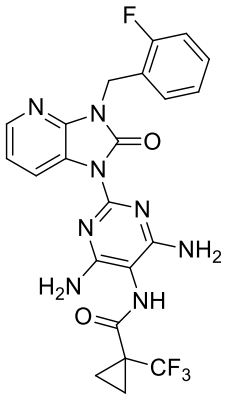
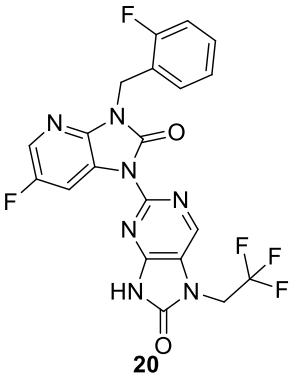
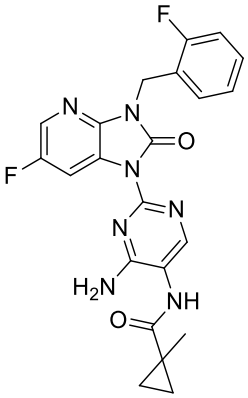
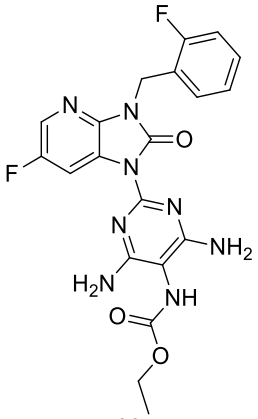
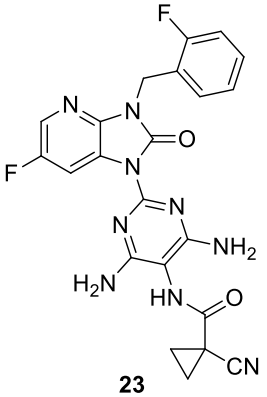
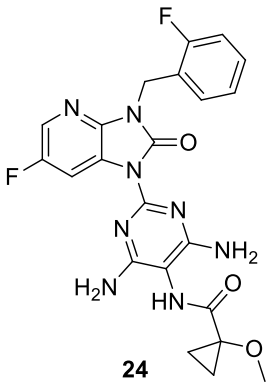
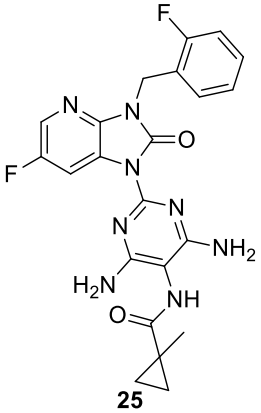
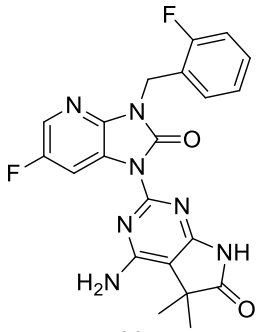
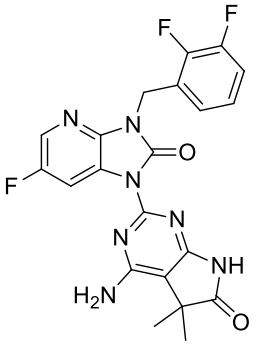
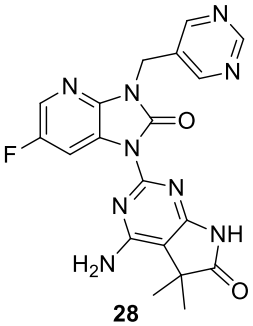
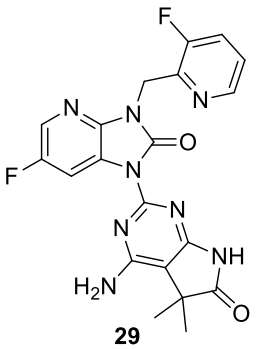
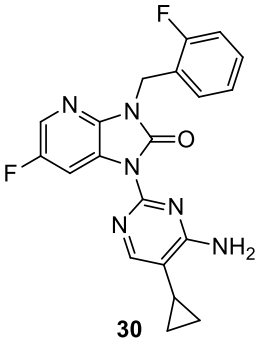
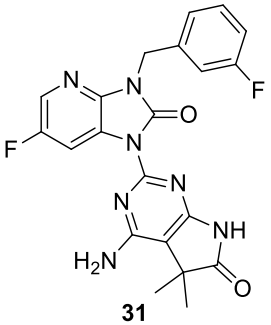
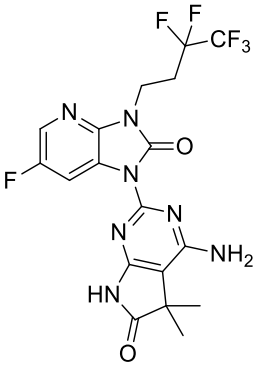
14,



15,



16,


17 ,

18 ,

19 ,

20 ,

21 ,

22 ,

23 ,

24 ,

25 ,

26 ,

27 ,

28 ,

29 ,

30 ,

31 , or

32 .

23. A use of the compound or the pharmaceutically acceptable salt thereof according to

any one of claims 1 to 22 in the manufacture of a medicament for treating diabetic nephropathy or hypertensive nephropathy.