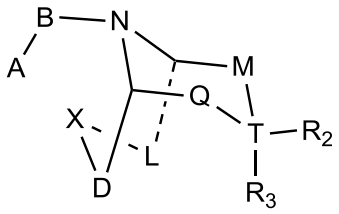
Claims

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



(I)

wherein:

A is selected from an optionally substituted 3-12 membered cyclohydrocarbyl or heterocyclohydrocarbyl or cyclic heterohydrocarbyl;

B is selected from C(=O) or $S(=O)_2$;

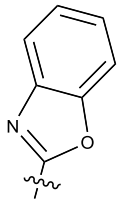
X is a single of bond linkage;

D and L are independently selected from optionally substituted CH_2, wherein the substituent is selected from F, Cl, Br, OH, NH_2, halogen-substituted, or unsubstituted C_{1-6} alkyl;

T is C;

M is selected from $C(Y)(R_{1a})$ when Q is selected from $C(R_{1b})(R_{1c})$, or M is selected from $C(R_{1b})(R_{1c})$ when Q is selected from $C(Y)(R_{1a})$;

Y is selected from $-(CH_2)_{r4}(G)_{r5}(CH_2)_{r6}-Y_1$, wherein Y_1 is selected from -O-E or a structure of formula (Y_{22}) which is optionally substituted,



(Y_{22})

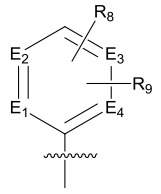
wherein the substituent is selected from F, Cl, Br, halogen-substituted, or unsubstituted C_{1-6} alkyl;

G is selected from halogen-substituted, or unsubstituted CH_2;

r_4 and r_6 are 0, r_5 is selected from 0 or 1, and when r_4, r_5 and r_6 are all 0, it means the corresponding structure is a single bond of linkage;

E is selected from optionally substituted 6 membered cyclohydrocarbyl or heterocyclic group, wherein the substituent is selected from F, Cl, Br, CN, OH, NH_2, halogen-substituted, hydroxy-substituted, amino-substituted or unsubstituted C_{1-6} alkyl;

wherein the E is selected from a structure unit of formula (E_a):



(E_a)

wherein:

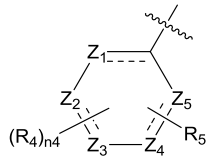
E_1, E_2, E_3, and E_4 are independently selected from halogen-substituted or unsubstituted CH, N; and

R_8 and R_9 are independently selected from H, F, Cl, Br, CN, OH, NH_2, halogen-substituted, hydroxy-substituted, amino-substituted or unsubstituted C_{1-6} alkyl;

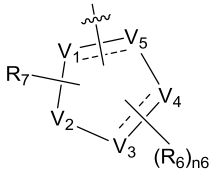
each of R_{1a}, R_{1b}, R_{1c}, R_2, and R_3 is independently selected from H, F, Cl, halogen-substituted, hydroxy-substituted, amino-substituted or unsubstituted C_{1-6} alkyl; and

the compound or the pharmaceutically acceptable salt thereof comprises one or more chiral center;

wherein A is selected from a structure unit as shown in formula (A_1) or (A_2):



(A_1)



(A_2)

wherein:

Z_1, Z_2, Z_3, Z_4, and Z_5 are independently selected from CH, CH_2, NH, or N;

V_1, V_2, V_3, V_4, and V_5 are independently selected from CH, CH_2, C, N, or S, and at least one of V_1 to V_5 is C or N;

------ represents a single bond or a double bond;

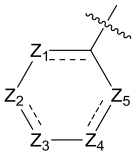
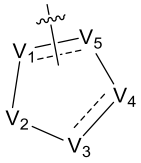
R_4 and R_6 are independently selected from H, F, Cl, Br, halogen-substituted, hydroxy-substituted, amino-substituted or unsubstituted C_{1-6} alkyl;

R_5 and R_7 are independently selected from optionally substituted 5-6 membered cyclohydrocarbyl or heterocyclic group, while the substituent is selected from F, Cl, Br, CN, OH, NH_2, halogen-substituted, hydroxy-substituted, amino-substituted or unsubstituted C_{1-6} alkyl;

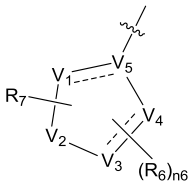
wherein the 5-6 membered cyclohydrocarbyl or heterocyclic group are each independently selected from phenyl, pyridyl, furyl, thienyl, thiazolyl, pyrimidinyl, pyrazolyl, 1,2,3-triazolyl or 1,2,5-triazolyl;

n_4 is selected from 0, 1, 2, 3, 4; and

n_6 is selected from 0, 1, 2, 3.

2. The compound of claim 1 or the pharmaceutically acceptable salt thereof, wherein the structure unit  is selected from phenyl or pyridyl;  is selected from furyl, thienyl or thiazolyl.

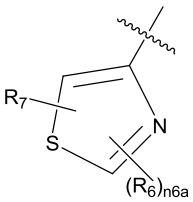
3. The compound of claims 1 or 2 or the pharmaceutically acceptable salt thereof, wherein formula (A_2) is selected from a structure of formula (A_{21}):



(A_{21})

wherein the V_1, V_2, V_3, V_4, V_5, R_6, R_7 and n_6 are defined as in claim 1.

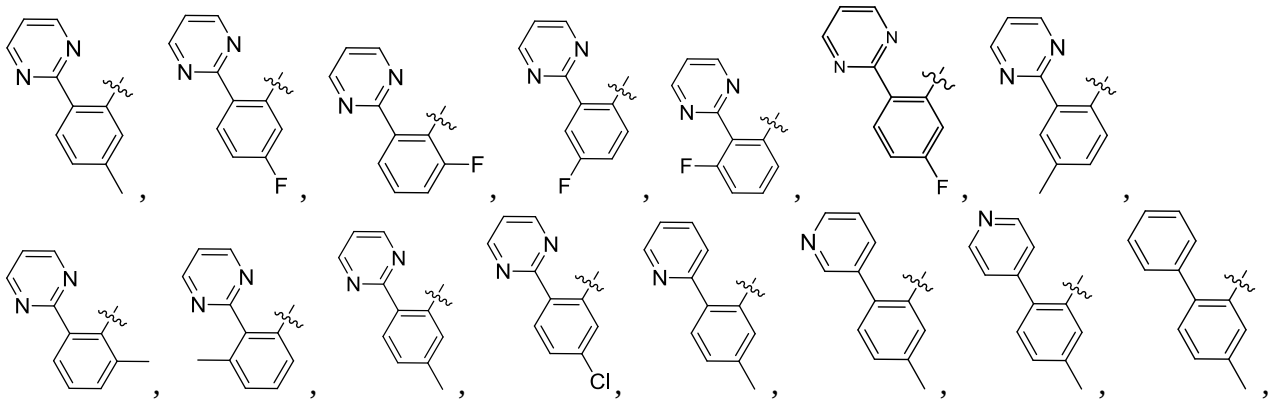
4. The compound of claim 3 or the pharmaceutically acceptable salt thereof, wherein A is selected from a structure unit of formula (A_{22}):

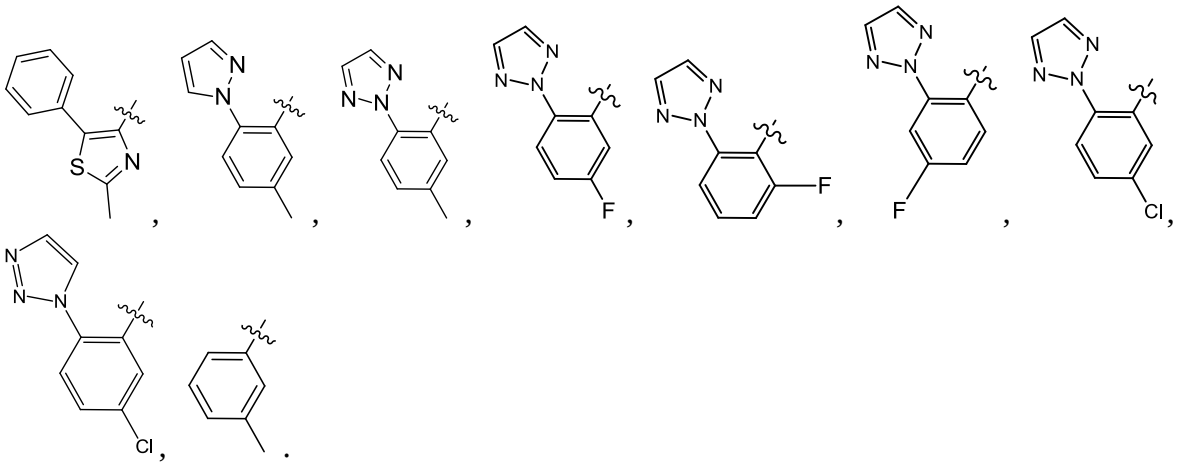


(A_{22})

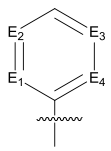
wherein R_6 and R_7 are defined as in claim 1; and n_{6a} is selected from 0 or 1.

5. The compound of any of claims 1-4 or the pharmaceutically acceptable salt thereof, wherein A is selected from:

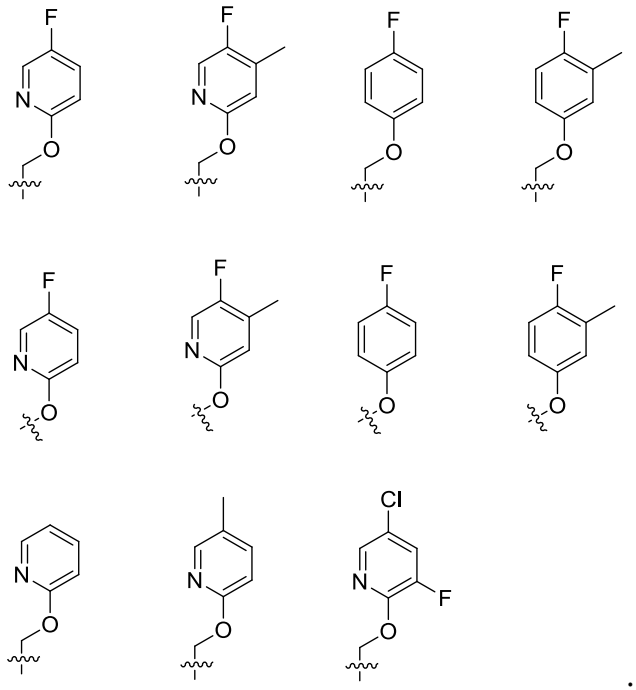




6. The compound of claim 1 or the pharmaceutically acceptable salt thereof, wherein Y is selected from -CH_2-O-E or -O-E, wherein E is defined as in claim 1.

7. The compound of claim 1 or the pharmaceutically acceptable salt thereof, wherein the structure unit  is defined as phenyl or pyridyl.

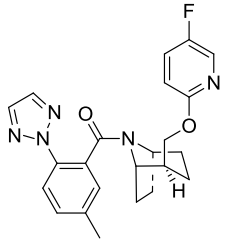
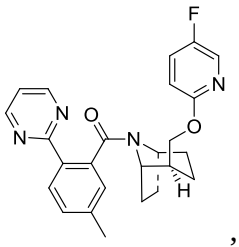
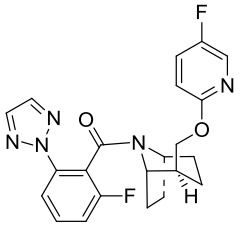
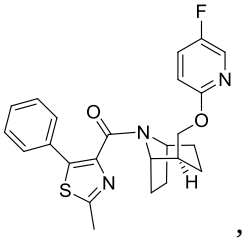
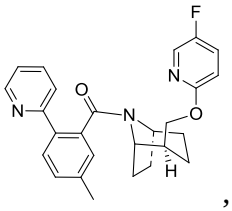
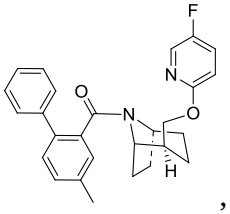
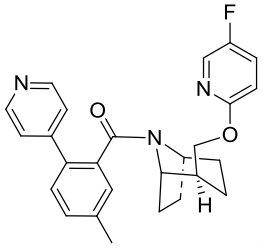
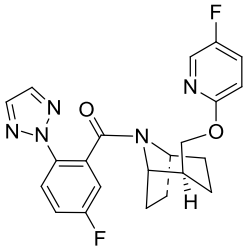
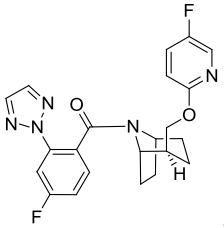
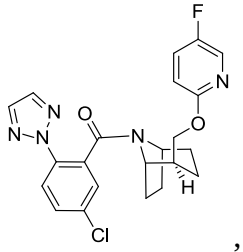
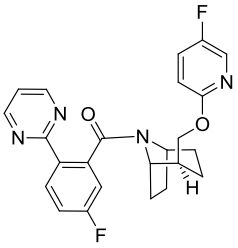
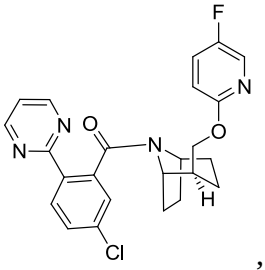
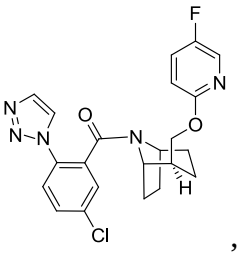
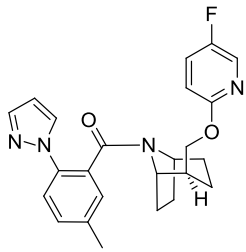
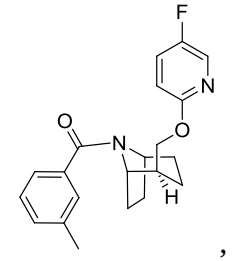
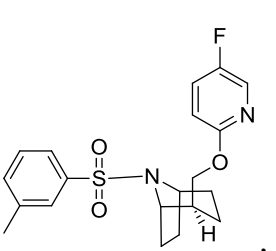
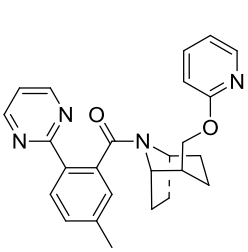
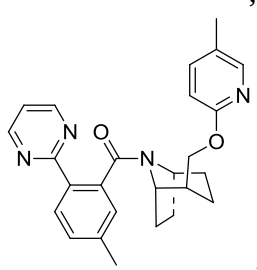
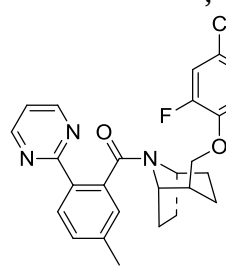
8. The compound of claim 6 or the pharmaceutically acceptable salt thereof, wherein Y is selected from:



9. The compound of claim 1 or the pharmaceutically acceptable salt thereof, wherein R_{1a}, R_{1b}, and R_{1c} are independently selected from H, methyl, or fluoro.

10. The compound of claim 1 or the pharmaceutically acceptable salt thereof, wherein R_2 and R_3 are independently selected from H, methyl or fluoro.

11. The compound of claim 1 or the pharmaceutically acceptable salt thereof, which has any of the following structures:


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12. A pharmaceutical composition comprising a therapeutically effective amount of the compound of any of claims 1-11, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

13. The use of a compound of any of claims 1-11 or a pharmaceutically acceptable salt thereof or a pharmaceutical composition of claim 12 in preparing a medicament for treatment of insomnia, chronic obstructive pulmonary disease, obstructive sleep apnea, hypersomnia, anxiety, obsessive-compulsive disorder, panic attack, nicotine addiction, or binge eating disorder.