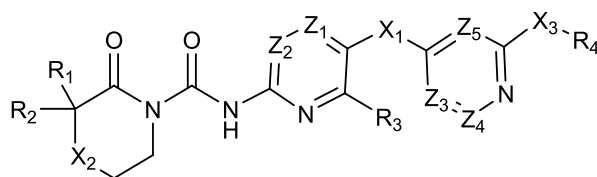


We claim

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



(I)

wherein,

X₁, X₂ and X₃ are each independently bond, -O-, -S-, -(CR₅R₆)_m-, -N(R₇)-, -N(R₈)-C(O)- or -C(O)-N(R₈)-;

Z₁, Z₂, Z₃, Z₄ and Z₅ are each independently C(R₉) or N;

R₁ and R₂ are each independently selected from the group consisting of hydrogen, deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)(=NR₁₀)R₁₁, -C₀₋₈-B(OR₁₂)₂, -C₀₋₈-P(O)(R₁₃)₂, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃, or, R₁ and R₂, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₁₀ cycloalkyl or 3-10 membered heterocyclyl,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ haloalkyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃;

R₃ and R₉ are each independently selected from the group consisting of hydrogen, deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)(=NR₁₀)R₁₁, -C₀₋₈-B(OR₁₂)₂, -C₀₋₈-P(O)(R₁₃)₂, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅, and -C₀₋₈-N(R₁₄)-C(O)R₁₃,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ haloalkyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃;

R₄ is selected from the group consisting of hydrogen, deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ haloalkyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃,

above groups are optionally more further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ haloalkyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃, wherein, cycloalkyl, heterocyclyl, aryl, and heteroaryl are optionally more further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ haloalkyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃;

R₅ and R₆ are each independently selected from the group consisting of hydrogen, deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)(=NR₁₀)R₁₁, -C₀₋₈-B(OR₁₂)₂, -C₀₋₈-P(O)(R₁₃)₂, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃, or, R₅ and R₆, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₁₀ cycloalkyl or 3-10 membered heterocyclyl,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ haloalkyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃;

R₇ and R₈ are each independently selected from the group consisting of hydrogen, deuterium, hydroxy, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocycliloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy and -NR₁₄R₁₅,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ haloalkyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃;

each R₁₀ is independently selected from the group consisting of hydrogen, deuterium, C₁₋₈ alkyl, C₃₋₁₀ cycloalkyl, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, -C₀₋₈-S(O)_rR₁₁, -C₀₋₈-O-R₁₂, -C₀₋₈-C(O)OR₁₂, -C₀₋₈-C(O)R₁₃, -C₀₋₈-O-C(O)R₁₃, -C₀₋₈-NR₁₄R₁₅, -C₀₋₈-C(O)NR₁₄R₁₅ and -C₀₋₈-N(R₁₄)-C(O)R₁₃;

each R₁₁ is independently selected from the group consisting of hydrogen, deuterium, hydroxy, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₂₋₈ alkenyl, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocycliloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy and -NR₁₄R₁₅, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, hydroxy, carbonyl, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocycliloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy and -NR₁₄R₁₅;

each R₁₂ is independently selected from the group consisting of hydrogen, deuterium, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl and 5-10 membered heteroaryl, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, hydroxy, carbonyl, cyano, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocyclyloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy and -NR₁₄R₁₅;

each R₁₃ is independently selected from the group consisting of hydrogen, deuterium, hydroxy, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocyclyloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy and -NR₁₄R₁₅, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, hydroxy, cyano, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocyclyloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy and -NR₁₄R₁₅;

each of R₁₄ and R₁₅ is independently selected from the group consisting of hydrogen, deuterium, hydroxy, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₃₋₁₀ cycloalkyl, 3-10 membered heterocyclyl, C₅₋₁₀ aryl, 5-10 membered heteroaryl, sulfonyl, methanesulfonyl, isopropylsulfonyl, cyclopropylsulfonyl, p-toluenesulfonyl, amino, monoalkylamino, dialkylamino and C₁₋₈ alkanoyl, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, hydroxy, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocyclyloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy, amino, monoalkylamino, dialkylamino and C₁₋₈ alkanoyl;

or R₁₄ and R₁₅, together with nitrogen atom directly attached thereto, form 5-10 membered heterocyclyl, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, hydroxy, C₁₋₈ alkyl, C₁₋₈ alkoxy, C₃₋₁₀ cycloalkyl, C₃₋₁₀ cycloalkyloxy, 3-10 membered heterocyclyl, 3-10 membered heterocyclyloxy, C₅₋₁₀ aryl, C₅₋₁₀ aryloxy, 5-10 membered heteroaryl, 5-10 membered heteroaryloxy, amino, monoalkylamino, dialkylamino and C₁₋₈ alkanoyl;

m is 0, 1, 2, 3, 4 or 5;

and r is 0, 1 or 2.

2. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 1, wherein R₃ is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)(=NR₁₀)R₁₁, -C₀₋₄-B(OR₁₂)₂, -C₀₋₄-P(O)(R₁₃)₂, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-

NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

wherein, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, and r are defined as in claim 1.

3. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 2, wherein R₃ is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, nitro, azido, methyl, ethyl, isopropyl, allyl, ethynyl, cyclopropyl, cyclopropylmethyl, oxa-cyclobutyl, aza-cyclopentyl, aza-cyclohexyl, phenyl, diazole, triazole, methanesulfonyl, isopropylsulfonyl, aminosulfonyl, methoxy, ethoxy, isopropoxy, methoxyethyl, ethoxyethyl, hydroxymethyl, hydroxyethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl, methoxycarbonyl, ethoxycarbonyl, acetyl, acetoxymethyl, amino, dimethylamino, aminomethyl, aminocarbonyl, dimethylaminocarbonyl and acetyl amino; **preferably**, R₃ is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, methyl, ethyl, isopropyl, cyclopropyl, cyclopropylmethyl, oxa-cyclobutyl, methoxy, ethoxy, isopropoxy, methoxyethyl, ethoxyethyl, hydroxymethyl, hydroxyethyl, cyanomethyl, trifluoromethyl, trideuteromethyl, difluoromethyl, dideuteromethyl, amino and dimethylamino; **more preferably**, R₃ is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, methyl, ethyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, trifluoromethyl, trideuteromethyl, difluoromethyl, dideuteromethyl, amino and dimethylamino.

4. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 1, wherein R₁ and R₂ are each independently selected from the group consisting of hydrogen, deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)(=NR₁₀)R₁₁, -C₀₋₄-B(OR₁₂)₂, -C₀₋₄-P(O)(R₁₃)₂, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃, or, R₁ and R₂, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₈ cycloalkyl or 3-8 membered heterocyclyl,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

wherein, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, and r are defined as in claim 1.

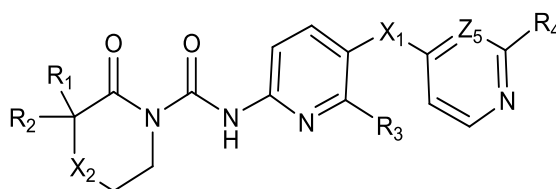
5. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 4, wherein R₁ and R₂ are each independently selected from the group consisting of hydrogen, deuterium, hydroxy, methyl, ethyl, propyl, isopropyl, allyl, ethynyl, cyclopropyl, cyclopropylmethyl, oxa-cyclobutyl, aza-cyclopentyl, aza-cyclohexyl, phenyl, diazole, triazole, methoxy, ethoxy, isopropoxy, phenylmethoxy, methoxyethyl, ethoxyethyl, hydroxymethyl, hydroxyethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl, methoxycarbonyl, ethoxycarbonyl, acetyl, acetoxymethyl, amino, dimethylamino, aminomethyl, aminocarbonyl, dimethylaminocarbonyl and acetyl amino,

or, R₁ and R₂, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₆ cycloalkyl or 3-6 membered heterocyclyl, wherein the heteroatom is oxygen or nitrogen, and the cycloalkyl and heterocyclyl are optionally further substituted by one or more substituents selected from the group consisting of deuterium, hydroxy, methyl, ethyl, propyl, isopropyl, allyl, ethynyl, cyclopropyl, cyclopropylmethyl, oxa-cyclobutyl, aza-cyclopentyl, aza-cyclohexyl, phenyl, diazole, triazole, methoxy, ethoxy, isopropoxy, methoxyethyl, ethoxyethyl, hydroxymethyl, hydroxyethyl, cyanomethyl, trifluoromethyl, difluoromethyl, methoxycarbonyl, ethoxycarbonyl, acetyl, acetoxy, acetoxymethyl, amino, dimethylamino, aminomethyl, aminocarbonyl, dimethylaminocarbonyl and acetylamino.

6. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 4, wherein R₁ and R₂ are each independently selected from the group consisting of hydrogen, deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, phenylmethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl and aminomethyl,

or, R₁ and R₂, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₆ cycloalkyl or 3-6 membered heterocyclyl, wherein the heteroatom is oxygen or nitrogen, and the cycloalkyl and heterocyclyl are optionally further substituted by one or more substituents selected from the group consisting of deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, difluoromethyl and aminomethyl.

7. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 1, wherein the compound of formula (I) is a compound having formula (IIa):



(II a)

wherein,

X₁ is -O- or -(CR₅R₆)-;

X₂ is bond, -O-, -(CR₅R₆)- or -N(R₇)-;

R₁ and R₂ are each independently selected from the group consisting of hydrogen, deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, phenylmethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl and aminomethyl,

or, R₁ and R₂, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₆ cycloalkyl or 3-6 membered heterocyclyl, wherein the heteroatom is oxygen or nitrogen, and the cycloalkyl and heterocyclyl are optionally further substituted by one or more substituents selected from the group consisting of deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl,

difluoromethyl and aminomethyl;

R₃ is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, methyl, ethyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl, amino and dimethylamino;

5 R₄ is selected from the group consisting of hydrogen, deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃ and -C₀₋₄-NR₁₄R₁₅,

10 above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃,

15 above groups are optionally more further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃, wherein cycloalkyl, heterocyclyl, aryl, and heteroaryl are optionally more further substituted by one or more substituents selected from
20 the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

R₅ and R₆ are each independently selected from the group consisting of hydrogen,
25 deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)(=NR₁₀)R₁₁, -C₀₋₄-B(OR₁₂)₂, -C₀₋₄-P(O)(R₁₃)₂, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃, or, R₅ and R₆, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₈ cycloalkyl or 3-8 membered
30 heterocyclyl,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;
35

R₇ is selected from the group consisting of hydrogen, deuterium, C₁₋₄ alkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, and 5-8 membered heteroaryl, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl,
40 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

wherein, Z₅, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, and r are defined as in claim 1.

8. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 7, wherein X_1 is -O- or $-(CR_5R_6)-$;

X_2 is bond, -O-, $-CH_2-$ or $-N(R_7)-$;

5 R_1 and R_2 are each independently selected from the group consisting of hydrogen, deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, phenylmethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl and aminomethyl,

10 or, R_1 and R_2 , together with the carbon atom directly attached thereto, form carbonyl, C_{3-6} cycloalkyl or 3-6 membered heterocyclyl, wherein the heteroatom is oxygen or nitrogen, and the cycloalkyl and heterocyclyl are optionally further substituted by one or more substituents selected from the group consisting of deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, difluoromethyl and aminomethyl;

15 R_3 is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, methyl, ethyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl, amino and dimethylamino;

20 R_4 is selected from C_{5-8} aryl, 5-8 membered heteroaryl or $-NR_{14}R_{15}$, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} haloalkyl, C_{3-8} cycloalkyl, 3-8 membered heterocyclyl, C_{5-8} aryl, 5-8 membered heteroaryl, $-C_{0-4}-S(O)_rR_{11}$, $-C_{0-4}-O-R_{12}$, $-C_{0-4}-C(O)OR_{12}$, $-C_{0-4}-C(O)R_{13}$, $-C_{0-4}-O-C(O)R_{13}$, $-C_{0-4}-NR_{14}R_{15}$, $-C_{0-4}-C(O)NR_{14}R_{15}$ and $-C_{0-4}-N(R_{14})-C(O)R_{13}$,

25 above groups are optionally more further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} haloalkyl, C_{3-8} cycloalkyl, 3-8 membered heterocyclyl, C_{5-8} aryl, 5-8 membered heteroaryl, $-C_{0-4}-S(O)_rR_{11}$, $-C_{0-4}-O-R_{12}$, $-C_{0-4}-C(O)OR_{12}$, $-C_{0-4}-C(O)R_{13}$, $-C_{0-4}-O-C(O)R_{13}$, $-C_{0-4}-NR_{14}R_{15}$, $-C_{0-4}-C(O)NR_{14}R_{15}$ and $-C_{0-4}-N(R_{14})-C(O)R_{13}$, wherein, the cycloalkyl, heterocyclyl, aryl, and heteroaryl are optionally more further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} haloalkyl, C_{3-8} cycloalkyl, 3-8 membered heterocyclyl, C_{5-8} aryl, 5-8 membered heteroaryl, $-C_{0-4}-S(O)_rR_{11}$, $-C_{0-4}-O-R_{12}$, $-C_{0-4}-C(O)OR_{12}$, $-C_{0-4}-C(O)R_{13}$, $-C_{0-4}-O-C(O)R_{13}$, $-C_{0-4}-NR_{14}R_{15}$, $-C_{0-4}-C(O)NR_{14}R_{15}$ and $-C_{0-4}-N(R_{14})-C(O)R_{13}$;

35 R_5 and R_6 are each independently selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, methyl, trifluoromethyl, trideuteriomethyl, ethyl, isopropyl, cyclopropyl, cyclopropylmethyl, methoxy and methoxyethyl, or, R_5 and R_6 , together with the carbon atom directly attached thereto, form carbonyl, cyclopropyl, cyclobutyl or oxa-cyclobutyl;

R_7 is selected from the group consisting of hydrogen, deuterium, methyl, ethyl, cyclopropyl, cyclopropylmethyl, trifluoromethyl and trideuteriomethyl;

40 R_9 is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, methyl, ethyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl, amino and dimethylamino;

wherein, R_{11} , R_{12} , R_{13} , R_{14} , R_{15} , and r are defined as in claim 7.

9. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 8, wherein X_1 is -O- or -CH₂-; X_2 is bond, -O- or -CH₂-;

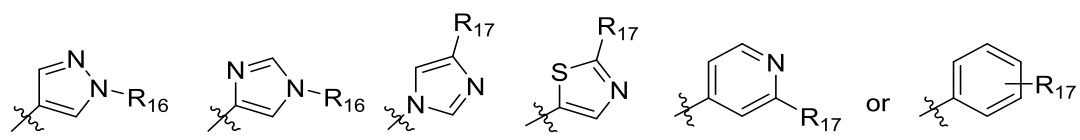
R_1 and R_2 are each independently selected from the group consisting of hydrogen, deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, phenylmethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl and aminomethyl, or, R_1 and R_2 , together with the carbon atom directly attached thereto, form C₃₋₆ cycloalkyl;

R_3 is selected from the group consisting of hydrogen, deuterium, methyl, ethyl, cyclopropyl, cyclopropylmethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl and dideuteriomethyl;

R_9 is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, cyclopropyl and cyclopropylmethyl.

10. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 8, wherein

R_4 is selected from C₅₋₈ aryl, 5-8 membered heteroaryl or -NR₁₄R₁₅, wherein said C₅₋₈ aryl and 5-8 membered heteroaryl are selected from the following structures:



wherein, each R_{16} is independently selected from the group consisting of hydrogen, deuterium, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-C(O)OR₁₂ and -C₀₋₄-C(O)R₁₃, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃, wherein the cycloalkyl, heterocyclyl, aryl, and heteroaryl are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

each R_{17} is independently selected from the group consisting of hydrogen, deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃,

above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃, wherein the cycloalkyl, heterocyclyl,

aryl, and heteroaryl are optionally more further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

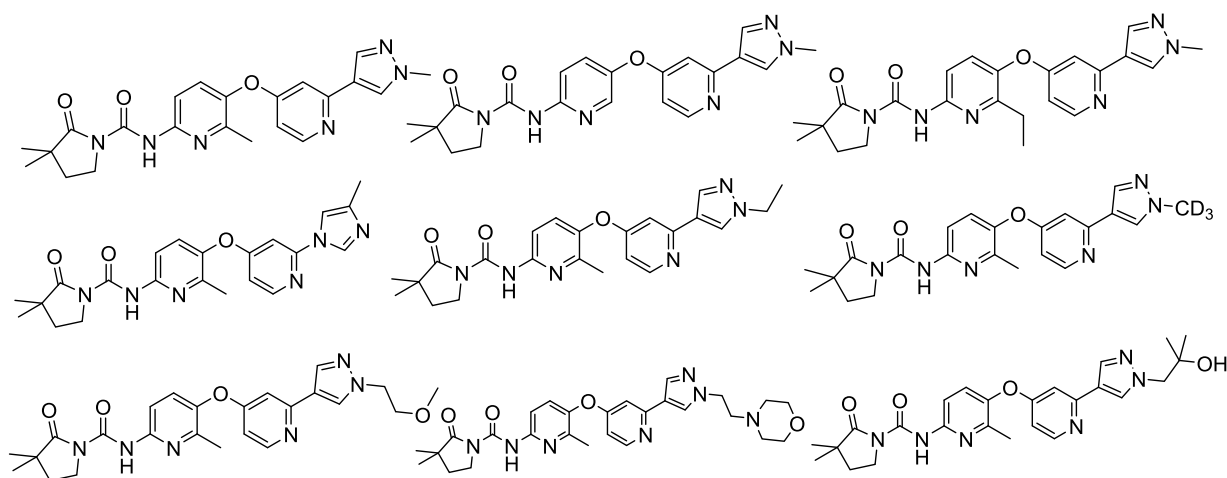
wherein, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, and r are defined as in claim 8.

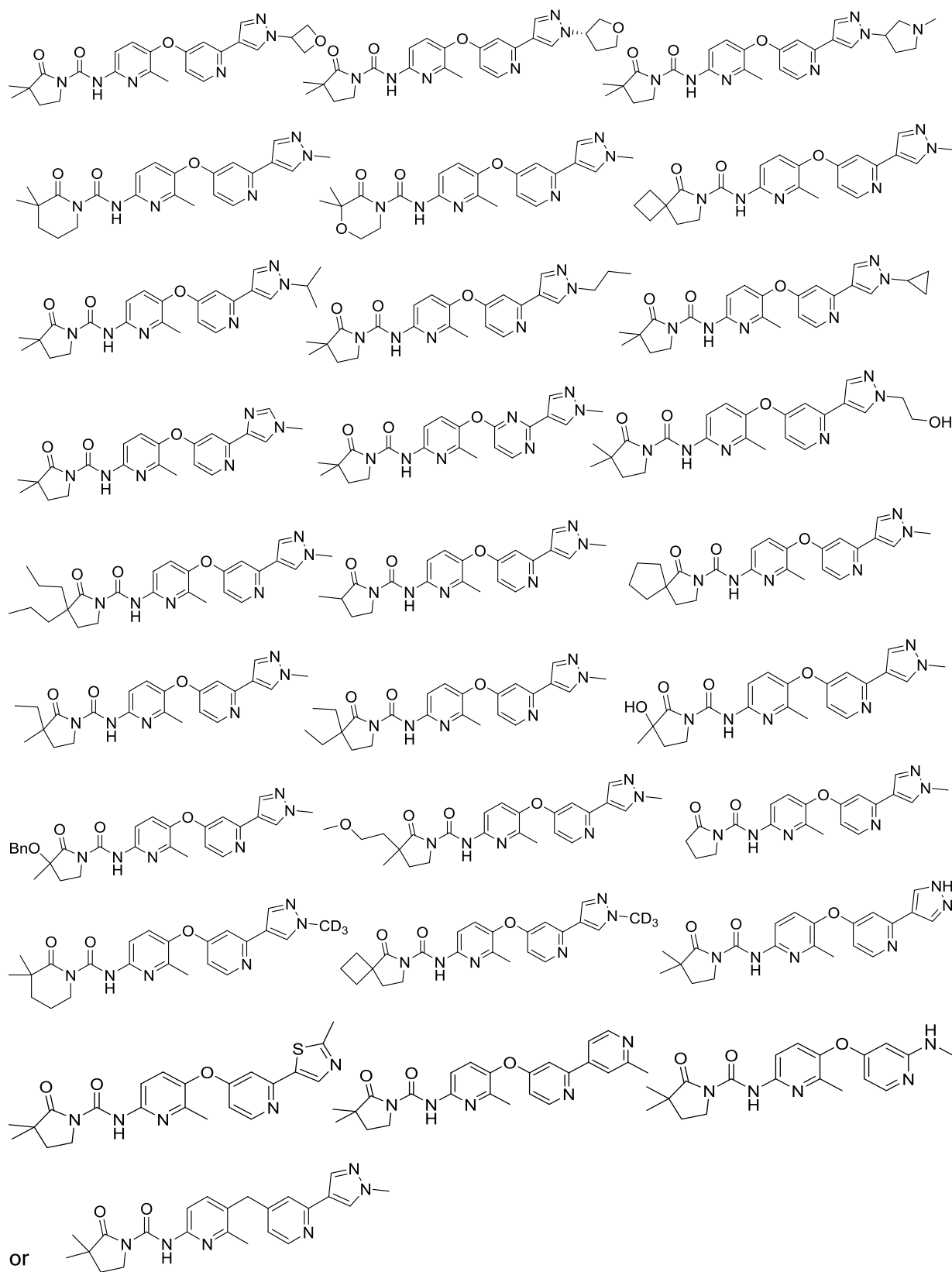
11. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 10, wherein each R₁₆ is independently selected from the group consisting of hydrogen, deuterium, C₁₋₄ alkyl, C₃₋₆ cycloalkyl, 3-6 membered heterocyclyl, phenyl and 5-6 membered heteroaryl, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

each R₁₇ is independently selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano, nitro, azido, methyl, ethyl, isopropyl, allyl, ethynyl, cyclopropyl, cyclopropylmethyl, oxa-cyclobutyl, aza-cyclopentyl, aza-cyclohexyl, phenyl, diazole, triazole, methanesulfonyl, isopropylsulfonyl, aminosulfonyl, methoxy, ethoxy, isopropoxy, methoxyethyl, ethoxyethyl, hydroxymethyl, hydroxyethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl, methoxycarbonyl, ethoxycarbonyl, acetyl, acetoxy, acetoxymethyl, amino, dimethylamino, aminomethyl, aminocarbonyl, dimethylaminocarbonyl and acetylamino;

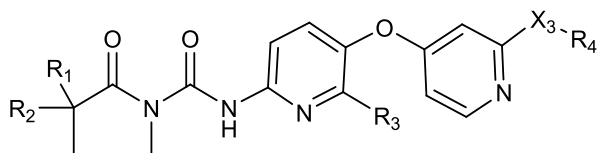
wherein, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, and r are defined as in claim 10.

12. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to any one of claims 1 to 11, wherein the compound is selected from the following compounds:





13. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claims 1, wherein the compound of formula (I) is a compound having formula (IIb):



(II b)

wherein,

X₃ is -C(O)-N(R₈)- or -N(R₈)-C(O)-;

R₁ and R₂ are each independently selected from the group consisting of hydrogen,
5 deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl and aminomethyl,

or, R₁ and R₂, together with the carbon atom directly attached thereto, form carbonyl, C₃₋₆
10 cycloalkyl or 3-6 membered heterocyclyl, wherein the heteroatom is oxygen or nitrogen, and the cycloalkyl and heterocyclyl are optionally further substituted by one or more substituents selected from the group consisting of deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, methoxyethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, difluoromethyl and aminomethyl;

R₃ is selected from the group consisting of hydrogen, deuterium, fluorine, chlorine, cyano,
15 methyl, ethyl, cyclopropyl, cyclopropylmethyl, methoxy, ethoxy, trifluoromethyl, trideuteriomethyl, difluoromethyl, dideuteriomethyl, amino and dimethylamino;

R₄ is selected from the group consisting of hydrogen, deuterium, C₁₋₄ alkyl, C₃₋₈ cycloalkyl,
3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃ and -C₀₋₄-NR₁₄R₁₅, above groups are optionally further
20 substituted by one or more substituents selected from the group consisting of deuterium, halogen, cyano, nitro, azido, C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl, 5-8 membered heteroaryl, -C₀₋₄-S(O)_rR₁₁, -C₀₋₄-O-R₁₂, -C₀₋₄-C(O)OR₁₂, -C₀₋₄-C(O)R₁₃, -C₀₋₄-O-C(O)R₁₃, -C₀₋₄-NR₁₄R₁₅, -C₀₋₄-C(O)NR₁₄R₁₅ and -C₀₋₄-N(R₁₄)-C(O)R₁₃;

R₈ is selected from the group consisting of hydrogen, deuterium, methyl, trifluoromethyl,
25 trideuteriomethyl, cyclopropyl and cyclopropylmethyl;

wherein, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, and r are defined as in claim 1.

14. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt
30 thereof according to claim 13, wherein,

R₁ and R₂ are each independently selected from the group consisting of hydrogen, deuterium, hydroxy, methyl, ethyl, propyl, cyclopropyl, cyclopropylmethyl, hydroxymethyl, cyanomethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl and dideuteriomethyl;

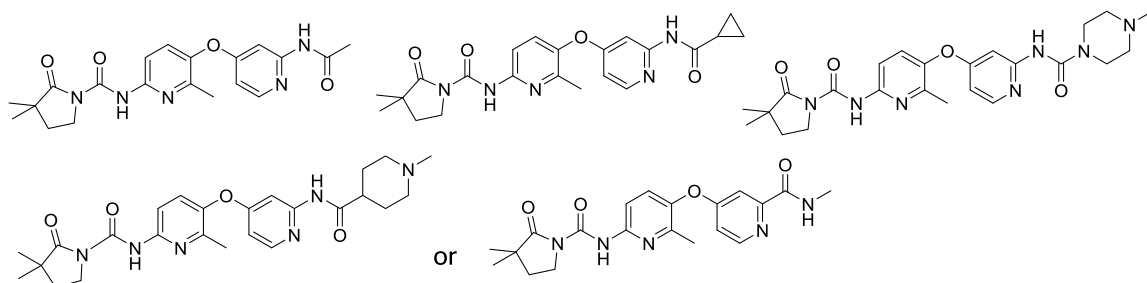
R₃ is selected from the group consisting of hydrogen, deuterium, methyl, ethyl, cyclopropyl,
35 cyclopropylmethyl, trifluoromethyl, trideuteriomethyl, difluoromethyl and dideuteriomethyl;

R₄ is selected from C₁₋₄ alkyl, C₃₋₈ cycloalkyl or 3-8 membered heterocyclyl, above groups are optionally further substituted by one or more substituents selected from the group consisting of deuterium, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₃₋₈ cycloalkyl, 3-8 membered heterocyclyl, C₅₋₈ aryl and

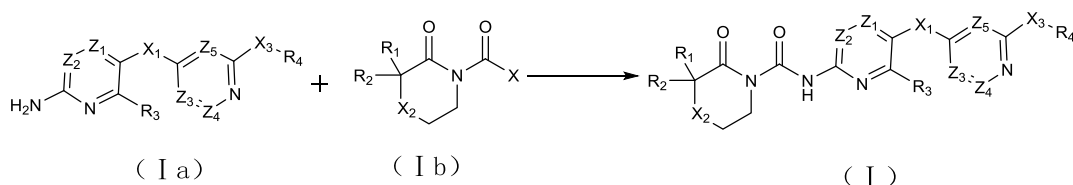
5-8 membered heteroaryl;

R₈ is selected from the group consisting of hydrogen, deuterium, methyl, cyclopropyl and cyclopropylmethyl.

- 5 15. The compound of the formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to claim 13, wherein the compound is selected from the following compounds:



- 10 16. A process for preparing the compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof according to any one of claims 1 to 15, comprising the following steps: the compound of formula (I) is synthesized through a condensation reaction of the compound of formula (Ia) or an acidic salt thereof and the compound of formula (Ib), and the reaction equation is as follows:



- 15 wherein, X is halogen or carboxyl, preferably chlorine or bromine; X₁, X₂, X₃, Z₁, Z₂, Z₃, Z₄, Z₅, R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, m, and r are defined as in claim 1.

- 20 17. A pharmaceutical composition, comprising the compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof of any one of claims 1 to 15, and a pharmaceutically acceptable carrier.

- 25 18. Use of the compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof of any one of claims 1 to 15, or the pharmaceutical composition of claim 17 in the preparation of medicament for treating cancer, tumor, autoimmune disease, metabolic disease or metastatic disease.

- 30 19. Use of the compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof of any one of claims 1 to 15, or the pharmaceutical composition of claim 17 in the preparation of medicament for treating ovarian cancer, pancreatic cancer, prostate cancer, lung cancer, breast cancer, renal carcinoma, liver cancer, cervical cancer, osseous metastasis cancer, papillary thyroid cancer, non-small cell lung cancer, colon cancer, gastrointestinal stromal tumor, solid tumor, melanoma, mesothelioma, glioblastoma, osteosarcoma, multiple myeloma, hyperproliferative disease, metabolic disease, neurodegenerative disease, primary tumor site

metastasis, myeloproliferative disease, leukemia, rheumatic arthritis, rheumatoid arthritis, osteoarthritis, multiple sclerosis, autoimmune nephritis, lupus, Crohn's disease, asthma, chronic obstructive pulmonary disease, osteoporosis, hypereosinophilic syndrome, mastocytosis or mast cell leukemia;

- 5 preferably in the preparation of medicament for treating ovarian cancer, pancreatic cancer, prostate cancer, breast cancer, cervical cancer, glioblastoma, multiple myeloma, metabolic disease, neurodegenerative disease, primary tumor site metastasis or osseous metastasis cancer.

- 10 20. The compound of formula (I), the stereoisomer or pharmaceutically acceptable salt thereof of any one of claims 1 to 15, or the pharmaceutical composition of claim 17 for use as a medicament for treating ovarian cancer, pancreatic cancer, prostate cancer, lung cancer, breast cancer, renal carcinoma, liver cancer, cervical cancer, osseous metastasis cancer, papillary thyroid cancer, non-small cell lung cancer, colon cancer, gastrointestinal stromal tumor, solid tumor, melanoma, mesothelioma, glioblastoma, osteosarcoma, multiple myeloma, 15 hyperproliferative disease, metabolic disease, neurodegenerative disease, primary tumor site metastasis, myeloproliferative disease, leukemia, rheumatic arthritis, rheumatoid arthritis, osteoarthritis, multiple sclerosis, autoimmune nephritis, lupus, Crohn's disease, asthma, chronic obstructive pulmonary disease, osteoporosis, hypereosinophilic syndrome, mastocytosis or mast cell leukemia;

- 20 preferably for use as a medicament for treating ovarian cancer, pancreatic cancer, prostate cancer, breast cancer, cervical cancer, glioblastoma, multiple myeloma, metabolic disease, neurodegenerative disease, primary tumor site metastasis or osseous metastasis cancer.