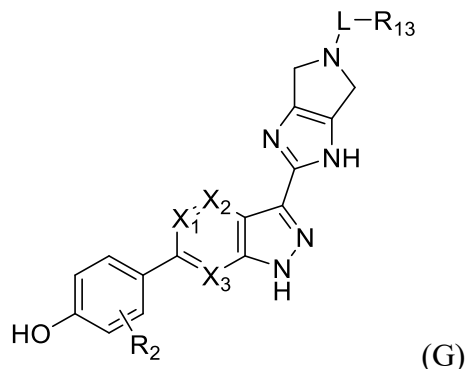


CLAIMS

1. A compound of Formula (G),



or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~ the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~,

in which

L is C=O, O=S=O, CH₂ or a linkage; and

X₁ is ~~N or~~ CR₁₄; and

X₂ is ~~N or~~ CR₁₅; and

X₃ is ~~N or~~ CR₁₆ R₁₆; and

R₁₄, R₁₅, R₁₆ are each independently selected from H, ~~-OH, -SH, -CN, halogen, -NO₂, -SF₅, -S-C₁₋₄-alkyl, C₁₋₆ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₆ alkoxy, C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, -N(R₉)(R₁₀), -N(R₁₁)(C(=O)R₁₂), -C(=O)-N(R₉)(R₁₀), -C(=O)-R₁₂, -C(=O)-OR₁₂, -OC(=O)R₁₂, -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂, in which the -S-C₁₋₄-alkyl, in which the~~ C₁₋₆ alkyl, C₁₋₆ alkoxy, C₃₋₇ cycloalkyl, and 3-7 membered heterocycloalkyl are optionally substituted with 1, 2 or 3 substitutes selected from halogen, -OH, -NH₂, -NH(CH₃), -N(CH₃)₂, -CN, C₁₋₄ alkyl, ~~C₃₋₇ cycloalkyl, C₁₋₄ hydroxyalkyl, -S-C₁₋₄-alkyl, -C(=O)H, -C(=O)-C₁₋₄-alkyl, -C(=O)-O-C₁₋₄-alkyl, -C(=O)-NH₂, -C(=O)-N(C₁₋₄-alkyl)₂, -N(C₁₋₄-alkyl)(C(=O)-C₁₋₄-alkyl), C₁₋₄ hydroxyalkyl, C₁₋₄ haloalkyl, C₁₋₄ alkoxy and C₁₋₄ haloalkoxy; and~~

R₁₃ is H, -N(R₁₇)(R₁₈), C₁₋₆ alkoxy, -SR₁₂, -OR₁₂, ~~-CN, halogen, -NO₂, -SF₅, -S-C₁₋₄-alkyl, C₁₋₆ alkyl or C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11 membered bicyclic heteroaryl, 11-15 membered tricyclic, C₅₋₁₁ bicycloalkyl, or 5-11 membered bicyclic heteroalkyl, and R₁₃ is substituted with 0, 1, 2, 3 or 4 R₁(s), in which R₁₇, and R₁₈ are each independently~~

selected from H, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, C₃₋₇ heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11membered bicyclic heteroaryl, 11-15membered tricycyl, C₅₋₁₁bicycloalkyl, and 5-11 membered bicyclic heteroalkyl and are optionally substituted with one or more substitutes each independently selected from -OH, -CN, -SH, halogen, -NO₂, -SF₅, -S-C₁₋₄ alkyl, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, 4-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11membered bicyclic heteroaryl, -N(R₉)(R₁₀), -N(R₁₁)(C(=O)R₁₂), -C(=O)-N(R₉)(R₁₀), -C(=O)-R₁₂, -C(=O)-OR₁₂, -OC(=O)R₁₂, -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂, wherein the -S-C₁₋₄ alkyl, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, 4-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, and 7-11membered bicyclic heteroaryl are optionally substituted with 1, 2 or 3 substitutes each independently selected from halogen, -CN, -OH, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, C₃₋₆ cycloalkyl, -N(R₉)(R₁₀), -N(R₁₁)(C(=O)R₁₂), -C(=O)-OR₁₂, -C(=O)H, -C(=O)R₁₂, -C(=O)-N(R₉)(R₁₀), -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂; or R₁₇, R₁₈ and the N atom connected thereto together form a 3-14 membered ring; and

0, 1, 2, 3 or 4 R₂(s) are present in formula (G), and R₂ is selected from H, halogen, -OH, -NO₂, -CN, -SF₅, -SH, -S-C₁₋₄ alkyl, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, 4-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11membered bicyclic heteroaryl, -N(R₉)(R₁₀), -N(R₁₁)(C(=O)R₁₂), -C(=O)-N(R₉)(R₁₀), -C(=O)-R₁₂, -C(=O)-OR₁₂, -OC(=O)R₁₂, -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂; in which the -S-C₁₋₄ alkyl, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, 4-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, and 7-11membered bicyclic heteroaryl are each optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -CN, -OH, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, C₃₋₆ cycloalkyl, -N(R₉)(R₁₀), -N(R₁₁)(C(=O)R₁₂), -C(=O)-OR₁₂, -C(=O)H, -C(=O)R₁₂, -C(=O)-N(R₉)(R₁₀), -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂; and

R₁ is selected from H, halogen, -OH, -NO₂, -CN, -SF₅, -SH, -S-C₁₋₄ alkyl, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ alkoxy, C₃₋₇ cycloalkyl, 3-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11membered bicyclic heteroaryl, 11-15membered tricycyl, C₅₋₁₁bicycloalkyl, 5-11 membered bicyclic heteroalkyl, -N(R₉)(R₁₀), -N(R₁₁)(C(=O)R₁₂), -C(=O)-N(R₉)(R₁₀), -C(=O)-R₁₂, -C(=O)-OR₁₂, -OC(=O)R₁₂, -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂, in which the -S-C₁₋₄ alkyl, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, and C₁₋₈ alkoxy are optionally substituted with 1, 2, 3, or 4 R₃(s), and in which the C₃₋₇ cycloalkyl, 3-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, and 7-11membered bicyclic heteroaryl are optionally substituted with 1, 2, 3, or 4 R₄(s); and

R₃ and R₄ are each independently selected from H, halogen, -OH, -NO₂, -CN, -SF₅, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, 3-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11 membered bicyclic heteroaryl, -N(R₅)(R₆), -N(R₁₁)(C(=O)R₁₂), -CON(R₇)(R₈), -C(=O)-R₁₂, -C(=O)-OR₁₂, -OC(=O)R₁₂, -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂, in which the C₁₋₆ alkyl, C₃₋₇ cycloalkyl, 3-10 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, and 7-11 membered bicyclic heteroaryl are each optionally substituted with 1, 2, 3 or 4 substituent(s) each independently selected from the group consisting of halogen, -CN, -OH, C₁₋₄ alkyl, C₁₋₆ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy, C₃₋₆ cycloalkyl, -N(R₉)(R₁₀), -N(R₁₁)(C(=O)R₁₂), -C(=O)-OR₁₂, -C(=O)H, -C(=O)R₁₂, -C(=O)-N(R₉)(R₁₀), -N(R₁₁)(S(=O)₂R₁₂), -S(=O)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂; and

R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, and R₁₂ are each independently H or selected from the group consisting of C₁₋₆ alkyl, C₁₋₄ haloalkyl, C₃₋₇ cycloalkyl, 4-14 membered heterocycloalkyl, C₆₋₁₀ aryl, 5-10 membered heteroaryl, (C₃₋₇ cycloalkyl)-C₁₋₄ alkyl-, (4-10 membered heterocycloalkyl)-C₁₋₄ alkyl-, (C₆₋₁₀ aryl)-C₁₋₄ alkyl- and (5-10 membered heteroaryl)-C₁₋₄ alkyl-, wherein the substituents included in the above group are each optionally substituted with 1, 2, 3 or 4 substituent(s) each independently selected from the group consisting of halogen, -CF₃, -OH, -NH₂, -NH(CH₃), -N(CH₃)₂, -CN, oxo, C₁₋₄ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, C₁₋₄ hydroxyalkyl, -S-C₁₋₄ alkyl, -C(=O)H, -C(=O)-C₁₋₄ alkyl, -C(=O)-O-C₁₋₄ alkyl, -C(=O)-NH₂, -C(=O)-N(C₁₋₄ alkyl)₂, C₁₋₄ haloalkyl, C₁₋₄ alkoxy and C₁₋₄ haloalkoxy.

2. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to claim 1, which is an isotopically labeled compound of the compound of formula (G), wherein all Hs are each independently and optionally substituted with D.

~~3. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 1, wherein X₁ is N.~~

~~4. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 1, wherein X₂ is N.~~

~~5.3. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to claim 1, wherein X₁, X₂ and X₃ is N are the same.

64. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to claim ~~13~~, wherein ~~X₁ is CR₁₄, X₂ is N and X₃ are CH.~~

5. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or CR₁₅, and X₃ is CR₁₆a mixture of the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 1 to 4, wherein L is C=O, O=S=O or CH₂.

76. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to claim 1, wherein ~~X₁, X₂ and X₃ are the same.~~

~~8. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 2, wherein X₁, X₂ and X₃ are the same.~~

~~9. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 7, wherein X₁, X₂ and X₃ are CH.~~

~~10. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 8, wherein X₁, X₂ and X₃ are CH.~~

~~11. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to any one of claims 1 to 10, wherein L is C=O, O=S=O or CH₂.~~

~~12. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to any one of claims 1 to 104, wherein R₁₃ is H, -N(R₁₇)(R₁₈), C₁₋₆ alkoxy, -OH, -SH, -CN, halogen, NO₂, SF₅, -S-C₁₋₄ alkyl, C₁₋₆ alkyl, or C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11 membered bicyclic heteroaryl, 11-15 membered tricyclic, C₅₋₁₁ bicycloalkyl, or 5-11 membered bicyclic heteroalkyl, and R₁₃ is substituted with 0, 1,~~

2, 3 or 4 R₁(s), in which R₁₇ and R₁₈ are each independently selected from H, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₃₋₇ cycloalkyl, C₃₋₇ heterocycloalkyl, C₅₋₇ aryl, and 5-7 membered heteroaryl, and are optionally substituted with one or more of -OH, -CN, -SH, halogen, -NO₂, and SF₅.

~~137.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein R₁₃ is H, -N(R₁₇)(R₁₈), C₁₋₆ alkoxy, -OH, -SH, ~~CN, halogen, NO₂, SF₅~~, -S-C₁₋₄ alkyl, C₁₋₆ alkyl, C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11 membered bicyclic heteroaryl, or 11-15 membered tricyclic, and R₁₃ is substituted with 0, 1, 2, 3 or 4 R₁(s).

~~148.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein R₁₃ is H, -N(R₁₇)(R₁₈), C₁₋₆ alkoxy, C₁₋₆ alkyl, C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, or 5-7 membered heteroaryl, and R₁₃ is substituted with 0, 1, 2, 3, or 4 R₁(s).

~~159.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein R₁₃ is -N(R₁₇)(R₁₈), C₁₋₆ alkoxy, C₁₋₆ alkyl, C₃₋₇ cycloalkyl, 4-6 membered heterocycloalkyl, phenyl, or 5-6 membered heteroaryl, and R₁₃ is substituted with 0, 1, 2, or 3 R₁(s).

~~1610.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein R₁₇ and R₁₈ are each independently selected from H, C₁₋₆ alkyl, C₃₋₇ cycloalkyl, and C₃₋₇ heterocycloalkyl, and are optionally substituted with one or more of -OH, -CN, -SH, halogen, -NO₂, and SF₅.

~~1711.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein R₁₇, R₁₈ and the N atom connected thereto together form a 4-10 membered ring.

~~1812.~~ The compound, or an isotopically labeled compound thereof, or an optical

isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein L is C=O, and R₁₃ is -N(R₁₇)(R₁₈), C₁₋₆ alkoxy, -OH, -SH, ~~CN, halogen, NO₂, SF₅, or -S-C₁₋₄ alkyl~~, and R₁₃ is substituted with 0, 1, 2, 3 or 4 R₁(s) in which R₁₇ and R₁₈ are each independently selected from H, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₃₋₇ cycloalkyl, C₃₋₇ heterocycloalkyl, C₅₋₇ aryl, and 5-7 membered heteroaryl, and are optionally substituted with one or more of -OH, -CN, -SH, halogen, -NO₂, and SF₅, or R₁₇, R₁₈ and the N atom connected thereto together form a 3-14 membered ring.

~~19~~13. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein 1, 2 or 3 R₂(s) are present and R₂ is selected from H, halogen, -OH, -NO₂, -CN, ~~SF₅, SH, -S-C₁₋₄ alkyl~~, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₂₋₆ alkenyl, ~~C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, and 4-10 membered heterocycloalkyl~~, in which the ~~-S-C₁₋₄ alkyl, C₁₋₆ alkyl, C₃₋₇ cycloalkyl, and 4-10 membered heterocycloalkyl~~ are each is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -OH, ~~NH₂, NH(CH₃), N(CH₃)₂~~, -CN, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₁₋₄ alkoxy, and C₁₋₄ haloalkoxy.

~~20~~14. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein 1, 2 or 3 R₂(s) are present, and R₂ is selected from halogen, and C₁₋₆ alkyl, in which the C₁₋₆ alkyl, and C₃₋₆ cycloalkyl, in which the C₁₋₆ alkyl and C₃₋₆ cycloalkyl are each is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -OH, ~~NH₂, NH(CH₃), N(CH₃)₂~~, -CN, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₁₋₄ alkoxy, and C₁₋₄ haloalkoxy.

~~21~~15. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to claim ~~159~~, wherein 1 or 2 R₂(s) are present, and R₂ is selected from halogen, and C₁₋₆ alkyl.

~~22~~16. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~104~~, wherein R₁₃ is substituted with 0 or 1 R₁, and

R₁ is selected from halogen, -OH, C₁₋₆ alkyl, 5-7 membered heterocycloalkyl, and C₃₋₇ cycloalkyl, in which the C₁₋₆ alkyl is optionally substituted with 1, 2, or 3 R₃(s) and in which the 5-7 membered heterocycloalkyl, and C₃₋₇ cycloalkyl is optionally substituted with 1, 2, 3 or 4 C₁₋₃ alkyl.

2317. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to 104, wherein the compound is selected from a group consisting of:

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(5-(piperidin-1-yl)pyrazin-2-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)--4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(5-morpholinylpyrazin-2-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)--4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(1-methyl-1H-pyrazol-4-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)pyrrolo[3,4-d]imidazol-5(1H, 4H,6H)-yl)(1-methylpiperidin-4-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)pyrrolo[3,4-d]imidazol-5(1H,4H,6H)-yl)(5-(4-methylpiperzin-1-yl)pyrazin-2-yl)ketone;

(2-(6-(2-ethyl-4-hydroxyphenyl)-1H-indazol-3-yl)pyrrolo[3,4-d]imidazol-5(1H,4H,6H)-yl)(5-(4-methylpiperzin-1-yl)pyrazin-2-yl)ketone;

5-ethyl-2-fluoro-4-(3-(5-(benzenesulfonyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)phenol;

5-ethyl-2-fluoro-4-(3-(5-(pyrazin-2ylmethyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)phenol;

4-(3-(5-(cyclopropylmethyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)-5-ethyl-2-fluorophenol;

Cyclopropyl(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)pyrrolo[3,4-d]imidazol-5(1H,4H,6H)-yl)ketone;

4-(3-(5-(cyclobutylmethyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)-5-ethyl-2-fluorophenol;

Cyclobutyl(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)pyrrolo[3,4-d]imidazol-5(1H,4H,6H)-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)pyrrolo[3,4-d]imidazol-5(1H,4H,6H)-yl)(3-hydroxycyclobutyl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-pyrrolo[3,4-d]imidazol-5-(1H,4H,6H)-yl)(pyridazin-4-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-pyrrolo[3,4-d]imidazol-5-(1H,4H,6H)-yl)(pyridazin-3-yl)ketone;

(S)-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)(3-hydroxypyrrolidin-1-yl)ketone;

5-ethyl-2-fluoro-4-(3-(5-(4-hydroxycyclohexyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)phenol;

4-(3-(5-(cyclopropanesulfonyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)-5-ethyl-2-fluorophenol;

4-(3-(5-(cyclobutylsulfonyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)-5-ethyl-2-fluorophenol;

4-(3-(5-(cyclopentylsulfonyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)-5-ethyl-2-fluorophenol;

5-ethyl-2-fluoro-4-(3-(5-((1-methyl-1H-pyrazol-4-yl)methyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)phenol;

4-(3-(5-(cyclopentyl-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)-5-ethyl-2-fluorophenol;

5-ethyl-2-fluoro-4-(3-(5-(tetrahydro-2H-pyran-4-yl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)phenol;

1-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)ethan-1-one;

1-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)propan-1-one;

(1-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)-2-methylpropan-1-one);

2-cyclopropyl-1-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)ethan-1-one;

1-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)-3-methylbutan-1-one;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)(pyrrolidin-1-yl)ketone;

Azetidine-1-yl((2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)(piperidin-1-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)(morpholino)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)(4-methylpiperzin-1-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-yl)(4-ethylpiperzin-1-yl)ketone;

Cyclopropyl(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-pyrazolo [4,3-b]pyridin-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)ketone;

Cyclopropyl(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-4-methyl-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)ketone;

(S)-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-4-methyl-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(3-hydroxylpyrrolidin-1-yl)ketone;

~~Cyclopropyl(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-pyrazolo[4,3-c]pyridin-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)ketone;~~

(R)-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(3-hydroxylpyrrolidin-1-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(3-hydroxylazetidine-1-yl)ketone;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(4-hydroxylpiperidin-1-yl)ketone;

2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-N-methyl-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-carboxamide;

2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-N-ethyl-4,6-dihydropyrrolo[3,4-d]imidazol-5-(1H)-carboxamide;

2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-N-(2-hydroxyethyl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxamide;

1-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-5-carbonyl)azetidine-3-nitrile;

1-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-5-carbonyl)pyrrolidin-3-nitrile;

2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-N-(tetrahydrofuran-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxamide;

Methyl 2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxylate;

Ethyl 2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxylate;

~~(S)-2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-pyrazolo[3,4-b]pyridin-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl(3-hydroxypyrrolidin-1-yl)ketone;~~

3-(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)-3-oxypropionitrile;

2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-N,N-dimethyl-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxamide;

N-(2-cyanoethyl)-2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxamide;

N-cyclopropyl-2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxamide;

N-cyclobutyl-2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-carboxamide;

(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)-4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(2,6-diazaspiro[3.3]heptan-2-yl)ketone;

(S)-6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-3-(5-prolyl-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol; and

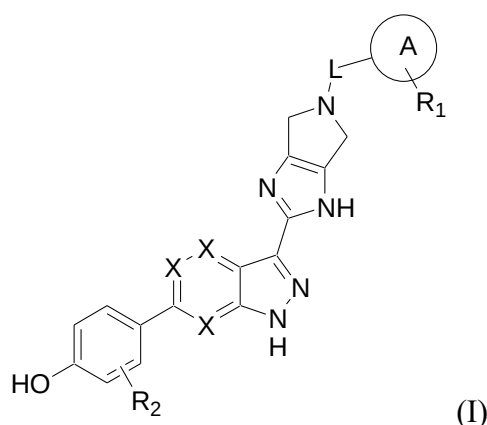
(R)-6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-3-(5-prolyl-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol.

2418. A pharmaceutical composition, comprising the compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~ the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to 2317, and one or more pharmaceutically acceptable carriers, adjuvants or excipients.

~~2519.~~ Use of the compound, or isotopically labeled compound thereof, or optical isomer thereof, geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims 1 to ~~2317~~ or the pharmaceutical composition of claim ~~2318~~ in the manufacture of a medicament for the treatment and/or prevention of a JAK-related disease or disorder.

~~26.~~ The use according to claim 25, wherein the JAK-related disease or disorder is selected from the group consisting of arthritis, autoimmune diseases or disorders, cancer or tumor, diabetes, eye diseases, disorders or conditions, intestinal inflammation, allergies or conditions, neurodegenerative diseases, skin diseases, conditions or disorders, allergies, asthma and other obstructive airway diseases, and transplant rejection.

~~2720.~~ A compound of Formula (I),



or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~,

in which

L is C=O, O=S=O, CH₂ or a linkage; and

X is CH or N;

the ring A is C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11 membered bicyclic heteroaryl, or 11-15 membered tricyclic;

0, 1, 2, 3 or 4 R₁(s) are present in formula (I), and R₁ is selected from H, halogen, C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, C₁₋₈ alkoxy, C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, and 7-11 membered bicyclic heteroaryl, in which the C₁₋₈ alkyl, C₂₋₈ alkenyl, C₂₋₈ alkynyl, and

C₁₋₈ alkoxy are optionally substituted with 1, 2, 3 or 4 R₃(s), and in which the C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, 5-7 membered heteroaryl, C₇₋₁₁ bicyclic aryl, 7-11 membered bicyclic heteroaryl are optionally substituted with 1, 2, 3 or 4 R₄(s),

0, 1, 2, 3 or 4 R₂(s) are present in formula (I), and R₂ is selected from H, halogen, -OH, -NO₂, -CN, ~~—SF₅—~~C₁₋₆alkyl, C₁₋₆alkoxy, C₁₋₆haloalkoxy, ~~C₂₋₆alkenyl, C₂₋₆alkynyl, C₃₋₇cycloalkyl, 4-10 membered heterocycloalkyl, N(R₉)(R₁₀), N(R₁₁)(C(=O)R₁₂), C(=O)N(R₉)(R₁₀), C(=O)R₁₂, C(=O)OR₁₂, OC(=O)R₁₂, N(R₁₁)(S(=O)₂R₁₂), S(=O)₂N(R₉)(R₁₀), SR₁₂ and OR₁₂~~, in which the C₁₋₆ alkyl, ~~C₃₋₇ cycloalkyl and 4-10 membered heterocycloalkyl~~ are each is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -CN, -OH, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy;

R₃ is selected from halogen, cyano, C₁₋₃ alkyl, hydroxyl, C₁₋₆ alkoxy, -N(R₅)(R₆), -CON(R₇)(R₈) or 3-7 membered heterocycloalkyl, in which the 3-7 membered heterocycloalkyl is optionally substituted with 1, 2, 3 or 4 R₄(s);

R₄ is selected from halogen, C₁₋₃ alkyl, hydroxyl, C₁₋₆ alkoxy, -NH₂, -NHCH₃ or -N(CH₃)₂;

R₅, R₆, R₇, R₈ are each independently hydrogen or C₁₋₄ alkyl;

R₉ is selected from H, C₁₋₄ alkyl, C₁₋₄ haloalkyl or, C₃₋₆ cycloalkyl, ~~N(R₉);~~

R₁₀), ~~N(~~ is H or selected from the group consisting of C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₃₋₇ cycloalkyl, 4-10 membered heterocycloalkyl, C₆₋₁₀ aryl, 5-10 membered heteroaryl, (C₃₋₇ cycloalkyl)-C₁₋₄ alkyl-, (4-10 membered heterocycloalkyl)-C₁₋₄ alkyl-, (C₆₋₁₀ aryl)-C₁₋₄ alkyl- and (5-10 membered heteroaryl)-C₁₋₄ alkyl-, wherein each substituent included in the above group is optionally substituted with 1, 2, 3 or 4 substituent(s) each independently selected from the group consisting of -OH, -NH₂, -NH(CH₃), -N(CH₃)₂, -CN, C₁₋₄ alkyl, C₃₋₇ cycloalkyl, C₁₋₄ hydroxyalkyl, -S-C₁₋₄ alkyl, -C(=O)H, -C(=O)-C₁₋₄ alkyl, -C(=O)-O-C₁₋₄ alkyl, -C(=O)-NH₂, -C(=O)-N(C₁₋₄ alkyl)₂, C₁₋₄ haloalkyl, C₁₋₄ alkoxy and C₁₋₄ haloalkoxy;

R₁₁)(C(=O) is selected from H, C₁₋₄ alkyl and C₃₋₇ cycloalkyl; and

R₁₂), ~~C(=O)OR₁₂, C(=O)H, C(=O)R₁₂, C(=O)N(R₉)(R₁₀), N(R₁₁)(S(=O)₂R₁₂),~~ is selected from the group consisting of C₁₋₆ alkyl, C₃₋₇ cycloalkyl, 4- to 14-membered heterocycloalkyl, C₆₋₁₀ aryl, 5-10 membered heteroaryl, (C₃₋₇ cycloalkyl)-C₁₋₄ alkyl-, (4-10 membered heterocycloalkyl)-C₁₋₄ alkyl-, (C₆₋₁₀ aryl)-C₁₋₄ alkyl- and (5-10 membered heteroaryl)-C₁₋₄ alkyl-, wherein each substituent included in the above group is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -CF₃, -CN, -OH, -NH₂, -NH(CH₃), -N(CH₃)₂, oxo, -S(=—C₁₋₄ alkyl, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, C₁₋₄ alkoxy and C₁₋₄ haloalkoxy.

21. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof according to claim 20, wherein L is C=O, O=S=O or CH₂.

22. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 20 to 21, wherein the ring A is C₃₋₇ cycloalkyl, 3-7 membered heterocycloalkyl, C₅₋₇ aryl, or 5-7 membered heteroaryl.

23. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 20 to 21, wherein the ring A is 5-6 membered heteroaryl, or phenyl.

24. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 20 to 21, wherein 0 or 1 R₁ is present, and R₁ is selected from C₁₋₆ alkyl, and 5-7 membered heterocycloalkyl in which the C₁₋₆ alkyl is optionally substituted with 1 or 2 R₃, and in which the 5-7 membered heterocycloalkyl is optionally substituted with 1, 2, 3 or 4 C₁₋₃ alkyl.

25. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 20 to 21, wherein 1 or 2 R₂(s) are present, and R₂ is selected from halogen, and C₁₋₆ alkyl, in which the C₁₋₆ alkyl is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -OH, -CN, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₁₋₄ alkoxy, and C₁₋₄ haloalkoxy.

26. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof according to any one of claims 20 to 21, wherein

L is C=O, and O=S=O;

X is CH;

The ring A is 5-7 membered heteroaryl or C₅₋₇ aryl;

0, 1, 2, 3 or 4 R₁(s) are present, and R₁ is selected from C₁₋₈ alkyl, and 3-7 membered heterocycloalkyl, in which the C₁₋₈ alkyl is optionally substituted with 1, 2,

3 or 4 R₃(s), and in which the 3-7 membered heterocycloalkyl is optionally substituted with 1, 2, 3 or 4 R₄(s),

~~)₂-N(R₉)(R₁₀), -SR₁₂ and -OR₁₂~~ 1, 2, or 3 R₂(s) are present, and R₂ is selected from H, halogen, -OH, -NO₂, -CN, C₁₋₆ alkyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, in which the C₁₋₆ alkyl, is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -CN, -OH, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ haloalkyl, C₁₋₄ haloalkoxy;

R₃ is selected from halogen, cyano, C₁₋₃ alkyl, hydroxyl, C₁₋₆ alkoxy, -N(R₅)(R₆), -CON(R₇)(R₈) or 3-7 membered heterocycloalkyl, in which the 3-7 membered heterocycloalkyl is optionally substituted with 1, 2, 3 or 4 R₄(s);

R₄ is selected from halogen, C₁₋₃ alkyl, hydroxyl, C₁₋₆ alkoxy, -NH₂, -NHCH₃ or -N(CH₃)₂;

R₅, R₆, R₇, R₈ are each independently hydrogen or C₁₋₄ alkyl;

R₉ is selected from H, C₁₋₄ alkyl, C₁₋₄ haloalkyl or C₃₋₇ cycloalkyl;

R₁₀ is H or selected from the group consisting of C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₃₋₇ cycloalkyl, 4-10 membered heterocycloalkyl, C₆₋₁₀ aryl, 5-10 membered heteroaryl, (C₃₋₇ cycloalkyl)-C₁₋₄ alkyl-, (4-10 membered heterocycloalkyl)-C₁₋₄ alkyl-, (C₆₋₁₀ aryl)-C₁₋₄ alkyl- and (5-10 membered heteroaryl)-C₁₋₄ alkyl-, wherein each substituent included in the above group is optionally substituted with 1, 2, 3 or 4 substituent(s) each independently selected from the group consisting of -OH, -NH₂, -NH(CH₃), -N(CH₃)₂, -CN, C₁₋₄ alkyl, C₃₋₇ cycloalkyl, C₁₋₄ hydroxyalkyl, -S-C₁₋₄ alkyl, -C(=O)H, -C(=O)-C₁₋₄ alkyl, -C(=O)-O-C₁₋₄ alkyl, -C(=O)-NH₂, -C(=O)-N(C₁₋₄ alkyl)₂, C₁₋₄ haloalkyl, C₁₋₄ alkoxy and C₁₋₄ haloalkoxy;

R₁₁ is selected from H, C₁₋₄ alkyl and C₃₋₇ cycloalkyl; and

R₁₂ is selected from the group consisting of C₁₋₆ alkyl, C₃₋₇ cycloalkyl, 4- to 14-membered heterocycloalkyl, C₆₋₁₀ aryl, 5-10 membered heteroaryl, (C₃₋₇ cycloalkyl)-C₁₋₄ alkyl-, (4-10 membered heterocycloalkyl)-C₁₋₄ alkyl-, (C₆₋₁₀ aryl)-C₁₋₄ alkyl- and (5-10 membered heteroaryl)-C₁₋₄ alkyl-, wherein each substituent included in the above group is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -CF₃, -CN, -OH, -NH₂, -NH(CH₃), -N(CH₃)₂, oxo, -S-C₁₋₄ alkyl, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₇ cycloalkyl, C₁₋₄ alkoxy and C₁₋₄ haloalkoxy.

~~2827.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~ the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to claim ~~2726~~, wherein ~~the ring A~~ is C=O, O-S-O or CH₂ ~~5-6 membered heteroaryl, or phenyl.~~

~~2928.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to claim ~~2726~~, wherein ~~X~~0 or 1 ~~R₁~~ is ~~CH~~present, and ~~R₁~~ is selected from ~~C₁₋₆ alkyl, and 5-7 membered heterocycloalkyl, wherein the C₁₋₆ alkyl is optionally substituted by 1 or 2 R₃, and wherein the 5-7 membered heterocycloalkyl group is optionally substituted with 1, 2, 3, or 4 C₁₋₃ alkyl.~~

~~3029.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to ~~any one of claims 27 to 29~~claim 26, wherein ~~the ring A~~1 or 2 ~~R₂(s)~~ are present and ~~R₂~~ is ~~C₃₋₇ cycloalkyl, selected from halogen, and C₁₋₆ alkyl, wherein the C₁₋₆ alkyl is each optionally substituted with 1, 2 or 3-7 membered heterocycloalkyl, C₅₋₇ aryl, or 5-7 membered heteroaryl substituent(s) each independently selected from the group consisting of halogen, -OH, -CN, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₁₋₄ alkoxy and C₁₋₄ haloalkoxy.~~

~~3130.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof,~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims ~~2720~~ to 29, wherein ~~the ring A~~ is ~~5-6 membered heteroaryl, or phenyl.~~

~~32.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to any one of claims 27 to 29, wherein 0 or 1 ~~R₁~~ is present, and ~~R₁~~ is selected from ~~C₁₋₆ alkyl, and 5-7 membered heterocycloalkyl in which the C₁₋₆ alkyl is optionally substituted with 1 or 2 R₃, and in which the 5-7 membered heterocycloalkyl is optionally substituted with 1, 2, 3 or 4 C₁₋₃ alkyl.~~

~~33.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to any one of claims 27 to 29, wherein 1 or 2 ~~R₂(s)~~ are present, and ~~R₂~~ is selected from halogen, ~~C₁₋₆ alkyl and C₃₋₆ cycloalkyl, in which the C₁₋₆ alkyl and C₃₋₆ cycloalkyl are each optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, -OH, -NH₂, -NH(CH₃), -N(CH₃)₂, -CN, C₁₋₄ alkyl, C₁₋₄ haloalkyl, C₁₋₄ alkoxy, and C₁₋₄ haloalkoxy.~~

~~34.~~ The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various

isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to any one of claims 27 to 29, wherein

~~21L is C=O, and O=S=O;~~

~~X is CH;~~

~~The ring A is 5-7 membered heteroaryl or C₅₋₇-aryl;~~

~~0, 1, 2, 3 or 4 R₁(s) are present, and R₁ is selected from C₁₋₈-alkyl, and 3-7 membered heterocycloalkyl, in which the C₁₋₈-alkyl is optionally substituted with 1, 2, 3 or 4 R₃(s), and in which the 3-7 membered heterocycloalkyl is optionally substituted with 1, 2, 3 or 4 R₄(s);~~

~~1, 2, or 3 R₂(s) are present, and R₂ is selected from H, halogen, OH, NO₂, CN, SF₅, C₁₋₆-alkyl, C₁₋₆-alkoxy, C₁₋₆-haloalkoxy, C₂₋₆-alkenyl, C₂₋₆-alkynyl, C₃₋₇-cycloalkyl, 4-10 membered heterocycloalkyl, N(R₉)(R₁₀), N(R₁₁)(C(=O)R₁₂), C(=O)N(R₉)(R₁₀), C(=O)R₁₂, C(=O)OR₁₂, OC(=O)R₁₂, N(R₁₁)(S(=O)₂R₁₂), S(=O)₂N(R₉)(R₁₀), SR₁₂ and OR₁₂, in which the C₁₋₆-alkyl, C₃₋₇-cycloalkyl and 4-10 membered heterocycloalkyl are each optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, CN, OH, C₁₋₄-alkyl, C₁₋₄-alkoxy, C₁₋₄-haloalkyl, C₁₋₄-haloalkoxy, C₃₋₆-cycloalkyl, N(R₉)(R₁₀), N(R₁₁)(C(=O)R₁₂), C(=O)OR₁₂, C(=O)H, C(=O)R₁₂, C(=O)N(R₉)(R₁₀), N(R₁₁)(S(=O)₂R₁₂), S(=O)₂N(R₉)(R₁₀), SR₁₂ and OR₁₂;~~

~~R₃ is selected from halogen, cyano, C₁₋₃-alkyl, hydroxyl, C₁₋₆-alkoxy, N(R₅)(R₆), CON(R₇)(R₈) or 3-7 membered heterocycloalkyl, in which the 3-7 membered heterocycloalkyl is optionally substituted with 1, 2, 3 or 4 R₄(s);~~

~~R₄ is selected from halogen, C₁₋₃-alkyl, hydroxyl, C₁₋₆-alkoxy, NH₂, NHCH₃ or N(CH₃)₂;~~

~~R₅, R₆, R₇, R₈ are each independently hydrogen or C₁₋₄-alkyl;~~

~~R₉ is selected from H, C₁₋₄-alkyl, C₁₋₄-haloalkyl or C₃₋₇-cycloalkyl;~~

~~R₁₀ is H or selected from the group consisting of C₁₋₄-alkyl, C₁₋₄-haloalkyl, C₃₋₇-cycloalkyl, 4-10 membered heterocycloalkyl, C₆₋₁₀-aryl, 5-10 membered heteroaryl, (C₃₋₇-cycloalkyl)-C₁₋₄-alkyl, (4-10 membered heterocycloalkyl)-C₁₋₄-alkyl, (C₆₋₁₀-aryl)-C₁₋₄-alkyl and (5-10 membered heteroaryl)-C₁₋₄-alkyl, wherein each substituent included in the above group is optionally substituted with 1, 2, 3 or 4 substituent(s) each independently selected from the group consisting of OH, NH₂, NH(CH₃), N(CH₃)₂, CN, C₁₋₄-alkyl, C₃₋₇-cycloalkyl, C₁₋₄-hydroxyalkyl, S-C₁₋₄-alkyl, C(=O)H, C(=O)-C₁₋₄-alkyl, C(=O)-O-C₁₋₄-alkyl, C(=O)-NH₂, C(=O)-N(C₁₋₄-alkyl)₂, C₁₋₄-haloalkyl, C₁₋₄-alkoxy and C₁₋₄-haloalkoxy;~~

~~R₁₁ is selected from H, C₁₋₄-alkyl and C₃₋₇-cycloalkyl; and~~

~~R₁₂ is selected from the group consisting of C₁₋₆-alkyl, C₃₋₇-cycloalkyl, 4 to 14-membered heterocycloalkyl, C₆₋₁₀-aryl, 5-10 membered heteroaryl, (C₃₋₇-cycloalkyl)-C₁₋₄-alkyl, (4-10 membered heterocycloalkyl)-C₁₋₄-alkyl, (C₆₋₁₀-aryl)-C₁₋₄-alkyl and (5-10 membered heteroaryl)-C₁₋₄-alkyl, wherein each substituent included in the above group is optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, CF₃, CN, OH, NH₂, NH(CH₃), N(CH₃)₂, oxo, S-C₁₋₄-alkyl, C₁₋₄-alkyl, C₁₋₄-haloalkyl, C₂₋₆-alkenyl, C₂₋₆-alkynyl, C₃₋₇-cycloalkyl, C₁₋₄-alkoxy and C₁₋₄-haloalkoxy.~~

~~35. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 34, wherein the ring A is 5-6 membered heteroaryl, or phenyl.~~

~~36. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 34, wherein 0 or 1 R₁ is present, and R₁ is selected from C₁₋₆-alkyl, and 5-7 membered heterocycloalkyl, wherein the C₁₋₆-alkyl is optionally substituted by 1 or 2 R₃, and wherein the 5-7 membered heterocycloalkyl group is optionally substituted with 1, 2, 3, or 4 C₁₋₃-alkyl.~~

~~37. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to claim 34, wherein 1 or 2 R₂(s) are present and R₂ is selected from halogen, C₁₋₆-alkyl and C₃₋₆-cycloalkyl, wherein the C₁₋₆-alkyl and C₃₋₆-cycloalkyl are each optionally substituted with 1, 2 or 3 substituent(s) each independently selected from the group consisting of halogen, OH, NH₂, NH(CH₃), N(CH₃)₂, CN, C₁₋₄-alkyl, C₁₋₄-haloalkyl, C₁₋₄-alkoxy and C₁₋₄-haloalkoxy.~~

~~38. The compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of various isomers, or a pharmaceutically acceptable salt thereof, or a prodrug thereof, or a metabolite thereof according to any one of claims 27 to 29, wherein the compound is selected from a group consisting of:~~

~~(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)--4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(5-(piperidin-1-yl)pyrazin-2-yl)ketone;~~

~~(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)--4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(5-morpholinpyrazin-2-yl)ketone;~~

~~(2-(6-(2-ethyl-5-fluoro-4-hydroxyphenyl)-1H-indazol-3-yl)--4,6-dihydropyrrolo[3,4-d]imidazol-5(1H)-yl)(1-methyl-1H-pyrazol-4-yl)ketone;~~

5-ethyl-2-fluoro-4-{3-[5-(1-methylpiperidin-4-carbonyl)-1H,4H,5H,6H-pyrrolo[3,4-d]imidazol-2-yl]-1H-indazol-6-yl}phenol;

5-ethyl-2-fluoro-4-{3-[5-(4-methylpiperazin-1-carbonyl)-1H,4H,5H,6H-pyrrolo[3,4-d]imidazol-2-yl]-1H-indazol-6-yl}phenol;

3-ethyl-4-{3-[5-(4-methylpiperazin-1-carbonyl)-1H,4H,5H,6H-pyrrolo[3,4-d]imidazol-2-yl]-1H-indazol-6-yl}phenol;

5-ethyl-2-fluoro-4-(3-(5-(benzenesulfonyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)phenol; and

5-ethyl-2-fluoro-4-(3-(5-(pyrazin-2-methyl)-1,4,5,6-tetrahydropyrrolo[3,4-d]imidazol-2-yl)-1H-indazol-6-yl)phenol.

~~39~~31. A pharmaceutical composition, comprising the compound, or an isotopically labeled compound thereof, or an optical isomer thereof, a geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ according to any one of claims ~~27-38~~20-30, and one or more pharmaceutically acceptable carriers, adjuvants or excipients.

~~40~~32. Use of the compound, or isotopically labeled compound thereof, or optical isomer thereof, geometric isomer thereof, a tautomer thereof or a mixture of ~~various isomers~~the optical isomer, the geometric isomer and the tautomer, or a pharmaceutically acceptable salt thereof, ~~or a prodrug thereof, or a metabolite thereof~~ ~~according thereof according~~ to any one of claims ~~27-38~~20-30 or the pharmaceutical composition of claim ~~39~~31 in the manufacture of a medicament for the treatment and/or prevention of a JAK-related disease or disorder:

~~41. The use according to claim 40~~, wherein the JAK-related disease or disorder is selected from the group consisting of arthritis, autoimmune diseases or disorders, cancer or tumor, diabetes, eye diseases, disorders or conditions, intestinal inflammation, allergies or conditions, neurodegenerative diseases, skin diseases, conditions or disorders, allergies, asthma and other obstructive airway diseases, and transplant rejection.