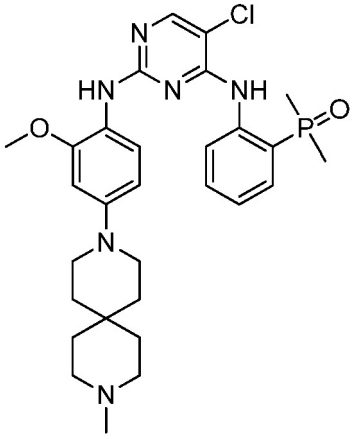
CLAIMS

1. A pharmaceutical composition, comprising a spirocyclic aryl phosphorus oxide or a pharmaceutically acceptable salt thereof as an active ingredient, and a pharmaceutically acceptable carrier, wherein, the spirocyclic aryl phosphorus oxide has the following structure:



, and

the D90 of the spirocyclic aryl phosphorus oxide or a pharmaceutically acceptable salt thereof is in a range of 40.3 μm to 79.6 μm, and the D50 of the spirocyclic aryl phosphorus oxide or a pharmaceutically acceptable salt thereof is in a range of 13.0 μm to 23.8 μm.

2. The pharmaceutical composition according to claim 1, wherein, the D50 of the spirocyclic aryl phosphorus oxide or a pharmaceutically acceptable salt thereof is in a range of 13.0 μm to 18.2 μm.

3. The pharmaceutical composition according to any one of claims 1-2, wherein, the spirocyclic aryl phosphorus oxide is in crystal form A.

4. The pharmaceutical composition according to any one of claims 1-2, wherein, the pharmaceutically acceptable carrier includes a filler, a disintegrant, an adhesive, a glidant and a lubricant.

5. The pharmaceutical composition according to claim 4, wherein, the filler is selected from the group consisting of starch, mannitol, sorbitol, microcrystalline cellulose, lactose, pregelatinized starch and inorganic salts or a combination thereof.

6. The pharmaceutical composition according to claim 5, wherein, the filler includes a combination of microcrystalline cellulose and pregelatinized starch.

7. The pharmaceutical composition according to claim 4, wherein, the disintegrant is selected from the group consisting of dry starch, sodium carboxymethyl starch, hydroxypropyl starch, low substituted hydroxypropyl cellulose, crospovidone and croscarmellose sodium or a combination thereof.

8. The pharmaceutical composition according to claim 7, wherein, the disintegrant includes sodium carboxymethyl starch.

9. The pharmaceutical composition according to claim 4, wherein, the adhesive is selected from the group consisting of distilled water, ethanol, starch paste, powdered sugar and syrup, hydroxypropyl methylcellulose, povidone, hydroxypropyl cellulose, methyl cellulose, ethyl cellulose and sodium carboxymethyl cellulose or a combination thereof.

10. The pharmaceutical composition according to claim 9, wherein, the adhesive includes hydroxypropyl methylcellulose.

11. The pharmaceutical composition according to claim 4, wherein, the glidant is selected from the group consisting of micronized silica gel and talc or a combination thereof.

12. The pharmaceutical composition according to claim 11, wherein, the glidant includes micronized silica gel.

13. The pharmaceutical composition according to claim 4, wherein, the lubricant is selected from the group consisting of magnesium stearate, hydrogenated vegetable oil, polyethylene glycol, dodecyl magnesium sulfate and sodium stearyl fumarate or a combination thereof.

14. The pharmaceutical composition according to claim 13, wherein, the lubricant includes magnesium stearate.

15. The pharmaceutical composition according to any one of claims 1-2, wherein, the pharmaceutical composition is a tablet.

16. The pharmaceutical composition according to claim 15, wherein, the pharmaceutical composition is a film-coated tablet.

17. The pharmaceutical composition according to any one of claims 1-2, wherein, the components each in percentage by weight are: 1% to 50% of spirocyclic aryl phosphorus oxide

or a pharmaceutically acceptable salt thereof, 1% to 90% of the filler, 1% to 10% of the disintegrant, 0.1% to 1% of the glidant and 0.5% to 5% of the lubricant.

18. The pharmaceutical composition according to claim 17, wherein, the components each in percentage by weight are: 5.0% of spirocyclic aryl phosphorus oxide or a pharmaceutically acceptable salt thereof, 26.0% of microcrystalline cellulose, 59.5% of pregelatinized starch, 5% of sodium carboxymethyl starch, 3.0% of hydroxypropyl methylcellulose, 0.5% of micronized silica gel and 1% of magnesium stearate.

19. A method for preparing the pharmaceutical composition according to claim 1, comprising the following steps:

1) mixing spirocyclic aryl phosphorus oxide or a pharmaceutically acceptable salt thereof with internal excipients including a filler, an adhesive and a disintegrant, and then granulating;

2) adding other excipients including a filler, a disintegrant and a lubricant, and then mixing; and

3) tabletting and coating.

20. Use of the pharmaceutical composition according to any one of claims 1-18 or the pharmaceutical composition prepared according to the method of claim 19 in the manufacture of a medicament for treating cancer.

21. The use according to claim 20, wherein the cancer includes non-small cell lung cancer, lymphoma, non-Hodgkin lymphoma, ovarian cancer, cervical cancer, prostate cancer, colorectal cancer, breast cancer, pancreatic cancer, glioma, glioblastoma, leukemia, gastric cancer, endometrial carcinoma, lung cancer, hepatocellular carcinoma, gastrointestinal stromal tumor, acute myeloid leukemia, cholangiocarcinoma, renal carcinoma, thyroid cancer, anaplastic large cell lymphoma, mesothelioma, multiple myeloma, and melanoma.

22. The use according to claim 21, wherein the cancer is non-small cell lung cancer.