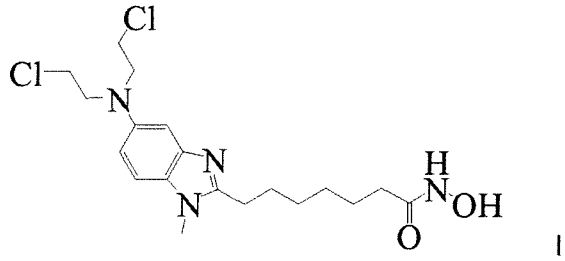
**Claims**

1. A combination comprising a class III receptor tyrosine kinase inhibitor and a compound of formula I or a pharmaceutically salt thereof:



I

2. The combination according to claim 1, wherein the pharmaceutically salt of the compound of formula I is the hydrochloride, hydrobromide, hydroiodide, sulfate, bisulfate, sulfamate, nitrate, phosphate, citrate, methanesulfonate, trifluoroacetate, glutamate, glucuronate, glutarate, malate, maleate, succinate, fumarate, tartrate, tosylate, salicylate, lactate, naphthalenesulfonate or acetate.

3. The combination according to claim 1 or claim 2, wherein the class III receptor tyrosine kinase inhibitor is an inhibitor of class III tyrosinse receptor kinases selected from FMS-related tyrosine kinase 3 (FLT3/STK1), colony-stimulating factor 1 receptor (CSF-1R), stem cell factor receptor (SCFR) and platelet derived growth factor receptors (PDGFRs).

4. The combination according to any one of claims 1 to 3, wherein the class III receptor tyrosine kinase inhibitor is an FMS-related tyrosine kinase 3 (FLT3) inhibitor selected from the group consisting of quizartinib, sunitinib, linifanib, foretinib, staurosporine and tandutinib.

5. The combination according to claim 4, wherein the FLT3 inhibitor is quizartinib.

6. The combination according to any one of claims 1 to 5, further comprising one or more additional pharmaceutically active agents.

7. The combination according to any one of claims 1 to 6, wherein the compound of formula I or a pharmaceutically acceptable salt thereof and the class III receptor tyrosine kinase inhibitor of the combination are adapted for administration concurrently, sequentially or separately.

8. The combination according to claim 7, wherein the compound of formula I or a pharmaceutically acceptable salt thereof and the class III receptor tyrosine kinase inhibitor of the combination are adapted for administration concurrently.

9. The combination according to any one of claims 1 to 8, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:2000 to 2000:1.

10. The combination according to claim 9, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:2000 to 1:100.

11. The combination according to claim 9, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:1000 to 1:500.

12. The combination according to claim 9, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:900 to 1:500.

13. The combination according to claim 9 comprising the compound of formula I or the acetate salt thereof and quizartinib, wherein the molar ratio of the quizartinib to the compound of formula I or the acetate salt thereof in said combination is from 1:900 to 1:500.

14. The combination according to any one of claims 1 to 13, wherein the class III receptor tyrosine kinase inhibitor is quizartinib and the quizartinib and the compound of formula I or a pharmaceutically acceptable salt thereof is a synergistic combination.

15. A pharmaceutical composition comprising a pharmaceutically acceptable diluent or carrier and a combination according to any one of claims 1 to 14.

16. A kit comprising a combination according to any one of claims 1 to 14, and optionally, instructions for treating a patient.

17. The combination according to any one of claims 1 to 14, composition according to claim 15 or kit according to claim 16, for use in the treatment of cancer.

18. The combination, composition or kit for use according to claim 17, wherein said cancer is selected from a hematologic cancer and breast cancer.

19. The combination, composition or kit for use according to claim 18, wherein said hematologic cancer is selected from multiple myeloma, lymphoma and leukemia.

20. The combination, composition or kit for use according to claim 19, wherein said leukemia is selected from acute lymphoblastic leukemia (ALL), chronic lymphocytic leukemia (CLL), acute myeloid leukemia (AML), chronic myeloid leukemia (CML), hairy cell leukemia (HCL), T-cell prolymphocytic leukemia (T-PLL), large granular lymphocytic leukemia and T-cell acute lymphoblastic leukemia.

21. The combination, composition or kit for use according to claim 20, wherein said leukemia is acute myeloid leukemia (AML).

22. The combination, composition or kit for use according to claim 19, wherein said multiple myeloma is selected from active myeloma, plasmacytoma, light chain myeloma and non-secretory myeloma.

23. The combination, composition or kit for use according to claim 19, wherein said lymphoma is selected from Hodgkin lymphoma and non-Hodgkin lymphoma.

24. The combination, composition or kit for use according to claim 18, wherein said breast cancer is selected from claudin-low tumors, basal-like tumors, human epidermal growth factor receptor 2 (HER2) positive tumors, luminal A tumors and luminal B tumors.

25. The combination, composition or kit for use according to claim 18, wherein said breast cancer is a triple-negative breast cancer.

26. The combination, composition or kit for use according to any one of claims 17 to 25, wherein in said treatment of cancer the class III receptor tyrosine kinase inhibitor and the compound of formula I or a pharmaceutically acceptable salt thereof are administered concurrently, sequentially or separately.

27. The combination, composition or kit for use according to claim 26, wherein in said treatment of cancer the class III receptor tyrosine kinase inhibitor and the compound of formula I or a pharmaceutically acceptable salt are administered concurrently.

28. The combination, composition or kit for use according to any one of claims 17 to 27, wherein in said treatment the compound of formula I or a pharmaceutically acceptable salt thereof is administered to the patient in need thereof at a dosage range of 10 to 100 mg/kg body weight patient.

29. The combination, composition or kit for use according to claim 28, wherein in said treatment the compound of formula I or a pharmaceutically acceptable salt thereof is administered to the patient in need thereof at a dosage range of 40 to 80 mg/kg body weight patient.

30. The combination, composition or kit for use according to any one of claims 17 to 29, wherein in said treatment the class III receptor tyrosine kinase inhibitor is administered at a dosage range of from 0.01 to 1 mg/kg body weight patient.

31. The combination, composition or kit for use according to claim 30, wherein the class III receptor tyrosine kinase inhibitor is administered at a dosage range of from 0.1 to 0.25 mg/kg body weight patient.

32. A method of treating cancer in a patient in need thereof comprising administering to said patient a combination according to any one of claims 1 to 14, a composition according to claim 15 or kit according to claim 16.

33. The method according to claim 32, wherein said cancer is selected from a hematologic cancer and breast cancer.

34. The method according to claim 33, wherein said hematologic cancer is selected from multiple myeloma, lymphoma and leukemia.

35. The method according to claim 34, wherein said leukemia is selected from acute lymphoblastic leukemia (ALL), chronic lymphocytic leukemia (CLL), acute myeloid leukemia (AML), chronic myeloid leukemia (CML), hairy cell leukemia (HCL), T-cell prolymphocytic leukemia (T-PLL), large granular lymphocytic leukemia and T-cell acute lymphoblastic leukemia.

36. The method according to claim 35, wherein said leukemia is acute myeloid leukemia (AML).

37. The method according to claim 34, wherein said multiple myeloma is selected from active

myeloma, plasmacytoma, light chain myeloma and non-secretory myeloma.

38. The method according to claim 34, wherein said lymphoma is selected from Hodgkin lymphoma and non-Hodgkin lymphoma.

39. The method according to claim 33, wherein said breast cancer is selected from claudin-low tumors, basal-like tumors, human epidermal growth factor receptor 2 (HER2) positive tumors, luminal A tumors and luminal B tumors.

40. The method according to claim 33, wherein said breast cancer breast cancer is a triple-negative breast cancer.

41. The method according to any one of claims 32 to 40, wherein in said method the compound of formula I or a pharmaceutically acceptable salt thereof and the class III receptor tyrosine kinase inhibitor are administered concurrently, sequentially or separately.

42. The method according to claim 41, wherein in said method the compound of formula I or a pharmaceutically acceptable salt thereof and the class III receptor tyrosine kinase inhibitor are administered concurrently.

43. The method according to any one of claims 32 to 42, wherein the compound of formula I or a pharmaceutically acceptable salt thereof is administered to the patient in need thereof at a dosage range of 10 to 100 mg/kg body weight patient.

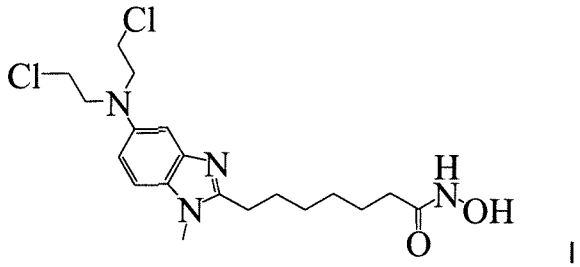
44. The method according to claim 43, wherein the compound of formula I or a pharmaceutically acceptable salt thereof is administered to the patient in need thereof at a dosage range of 40 to 80 mg/kg body weight patient.

45. The method according to any one of claims 32 to 44, wherein the class III receptor tyrosine kinase inhibitor is administered to the patient in need thereof at a dosage range of from 0.01 to 1 mg/kg body weight patient.

46. The method according to claim 45, wherein the class III receptor tyrosine kinase inhibitor is administered to the patient in need thereof at a dosage range of from 0.1 to 0.25 mg/kg body weight patient.

**Claims**

1. A combination comprising a class III receptor tyrosine kinase inhibitor and a compound of formula I or a pharmaceutically salt thereof:



I

2. The combination according to claim 1, wherein the pharmaceutically salt of the compound of formula I is the hydrochloride, hydrobromide, hydroiodide, sulfate, bisulfate, sulfamate, nitrate, phosphate, citrate, methanesulfonate, trifluoroacetate, glutamate, glucuronate, glutarate, malate, maleate, succinate, fumarate, tartrate, tosylate, salicylate, lactate, naphthalenesulfonate or acetate.

3. The combination according to claim 1 or claim 2, wherein the class III receptor tyrosine kinase inhibitor is an inhibitor of class III tyrosinse receptor kinases selected from FMS-related tyrosine kinase 3 (FLT3/STK1), colony-stimulating factor 1 receptor (CSF-1R), stem cell factor receptor (SCFR) and platelet derived growth factor receptors (PDGFRs).

4. The combination according to any one of claims 1 to 3, wherein the class III receptor tyrosine kinase inhibitor is an FMS-related tyrosine kinase 3 (FLT3) inhibitor selected from the group consisting of quizartinib, sunitinib, linifanib, foretinib, staurosporine and tandutinib.

5. The combination according to claim 4, wherein the FLT3 inhibitor is quizartinib.

6. The combination according to any one of claims 1 to 5, further comprising one or more additional pharmaceutically active agents.

7. The combination according to any one of claims 1 to 6, wherein the compound of formula I or a pharmaceutically acceptable salt thereof and the class III receptor tyrosine kinase

inhibitor of the combination are adapted for administration concurrently, sequentially or separately.

8. The combination according to claim 7, wherein the compound of formula I or a pharmaceutically acceptable salt thereof and the class III receptor tyrosine kinase inhibitor of the combination are adapted for administration concurrently.

9. The combination according to any one of claims 1 to 8, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:2000 to 2000:1.

10. The combination according to claim 9, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:2000 to 1:100.

11. The combination according to claim 9, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:1000 to 1:500.

12. The combination according to claim 9, wherein the molar ratio of class III receptor tyrosine kinase inhibitor to compound of formula I or a pharmaceutically acceptable salt thereof in said combination is from 1:900 to 1:500.

13. The combination according to claim 9 comprising the compound of formula I or the acetate salt thereof and quizartinib, wherein the molar ratio of the quizartinib to the compound of formula I or the acetate salt thereof in said combination is from 1:900 to 1:500.

14. The combination according to any one of claims 1 to 13, wherein the class III receptor tyrosine kinase inhibitor is quizartinib and the quizartinib and the compound of formula I or a pharmaceutically acceptable salt thereof is a synergistic combination.

15. A pharmaceutical composition comprising a pharmaceutically acceptable diluent or carrier and a combination according to any one of claims 1 to 14.

16. A kit comprising a combination according to any one of claims 1 to 14, and optionally, instructions for treating a patient.

17. The combination according to any one of claims 1 to 14, composition according to claim 15 or kit according to claim 16, for use in the treatment of cancer.

18. The combination, composition or kit for use according to claim 17, wherein said cancer is selected from a hematologic cancer and breast cancer.

19. The combination, composition or kit for use according to claim 18, wherein said hematologic cancer is selected from multiple myeloma, lymphoma and leukemia.

20. The combination, composition or kit for use according to claim 19, wherein said leukemia is selected from acute lymphoblastic leukemia (ALL), chronic lymphocytic leukemia (CLL), acute myeloid leukemia (AML), chronic myeloid leukemia (CML), hairy cell leukemia (HCL), T-cell prolymphocytic leukemia (T-PLL), large granular lymphocytic leukemia and T-cell acute lymphoblastic leukemia.

21. The combination, composition or kit for use according to claim 20, wherein said leukemia is acute myeloid leukemia (AML).

22. The combination, composition or kit for use according to claim 19, wherein said multiple myeloma is selected from active myeloma, plasmacytoma, light chain myeloma and non-secretory myeloma.

23. The combination, composition or kit for use according to claim 19, wherein said lymphoma is selected from Hodgkin lymphoma and non-Hodgkin lymphoma.

24. The combination, composition or kit for use according to claim 18, wherein said breast cancer is selected from claudin-low tumors, basal-like tumors, human epidermal growth factor receptor 2 (HER2) positive tumors, luminal A tumors and luminal B tumors, preferably a triple-negative breast cancer.

25. The use of the combination according to any one of claims 1 to 14, the composition according to claim 15 or the kit according to claim 16 in the manufacture of a medicament for the treatment of cancer.

26. The use of a combination, composition, or kit according to claim 25, wherein said cancer is selected from a hematologic cancer and breast cancer.

27. The use of a combination, composition, or kit according to claim 26, wherein said hematologic cancer is selected from multiple myeloma, lymphoma and leukemia.

28. The use of a combination, composition, or kit according to claim 27, wherein said leukemia is selected from acute lymphoblastic leukemia (ALL), chronic lymphocytic leukemia (CLL), acute myeloid leukemia (AML), chronic myeloid leukemia (CML), hairy cell leukemia (HCL), T-cell prolymphocytic leukemia (T-PLL), large granular lymphocytic leukemia and T-cell acute lymphoblastic leukemia.

29. The use of a combination, composition, or kit according to claim 28, wherein said leukemia is acute myeloid leukemia (AML).

30. The use of a combination, composition, or kit according to claim 27, wherein said multiple myeloma is selected from active myeloma, plasmacytoma, light chain myeloma and non-secretory myeloma.

31. The use of a combination, composition, or kit according to claim 26, wherein said lymphoma is selected from Hodgkin lymphoma and non-Hodgkin lymphoma.

32. The use of a combination, composition, or kit according to claim 31, wherein said breast cancer is selected from claudin-low tumors, basal-like tumors, human epidermal growth factor receptor 2 (HER2) positive tumors, luminal A tumors and luminal B tumors.

33. The use of a combination, composition, or kit according to claim 31, wherein said breast cancer is a triple-negative breast cancer.

34. The use of a combination, composition, or kit according to claims 17 to 25, wherein in said treatment of cancer the class III receptor tyrosine kinase inhibitor and the compound of formula I or a pharmaceutically acceptable salt thereof are administered concurrently, sequentially or separately.

35. The use of a combination, composition, or kit according to claim 26, wherein in said treatment of cancer the class III receptor tyrosine kinase inhibitor and the compound of formula I or a pharmaceutically acceptable salt are administered concurrently.

36. The use of a combination, composition, or kit according to claims 25 to 35, wherein in said treatment the compound of formula I or a pharmaceutically acceptable salt thereof is administered to the patient in need thereof at a dosage range of 10 to 100 mg/kg body weight patient.

37. The use of a combination, composition, or kit according to claim 36, wherein in said treatment the compound of formula I or a pharmaceutically acceptable salt thereof is administered to the patient in need thereof at a dosage range of 40 to 80 mg/kg body weight patient.

38. The use of a combination, composition, or kit according to claims 25 to 37, wherein in said treatment the class III receptor tyrosine kinase inhibitor is administered at a dosage range of from 0.01 to 1 mg/kg body weight patient.

39. The use of a combination, composition, or kit according to claim 38, wherein the class III receptor tyrosine kinase inhibitor is administered at a dosage range of from 0.1 to 0.25 mg/kg body weight patient.

40. A method of treating cancer in a patient in need thereof comprising administering to said patient a combination according to any one of claims 1 to 14, a composition according to claim 15 or kit according to claim 16.