We Claim:

1. A method of treating cancer in a mammal comprising administering to said mammal a therapeutically effective amount of 3-[(*R*)-1-(2,6-dichloro-3-fluoro-phenyl)-ethoxy]-5-(1-piperidin-4-yl-1*H*-pyrazol-4-yl)-pyridin-2-ylamine or a pharmaceutically acceptable salt thereof, wherein the cancer is mediated by at least one genetically altered ROS.

2. The method of claim 1, wherein the mammal is a human.

3. The method of claim 1, wherein the at least one genetically altered ROS is a genetically altered ROS gene.

4. The method of claim 3, wherein the genetically altered ROS gene is a ROS fusion gene.

5. The method of claim 4, wherein the ROS fusion gene is the SLC34A2-ROS gene or the CD74-ROS gene

6. The method of claim 4, wherein the ROS fusion gene is the FIG-ROS gene.

7. The method of claim 1, wherein the at least one genetically altered ROS is a ROS fusion protein.

8. The method of claim 7, wherein the ROS fusion protein is SLC34A2-ROS kinase.

9. The method of claim 7, wherein the ROS fusion protein is CD74-ROS kinase.

10. The method of claim 7, wherein the ROS fusion protein is FIG-ROS kinase.

11. The method of any one of claims 1-10, wherein the cancer is selected from lung cancer, bone cancer, pancreatic cancer, skin cancer, cancer of the head or neck, cutaneous or intraocular melanoma, uterine cancer, ovarian cancer, rectal cancer, cancer of the anal region, stomach cancer, colon cancer, breast cancer, carcinoma of the fallopian tubes, carcinoma of the endometrium, carcinoma of the cervix, carcinoma of the vagina, carcinoma of the vulva, Hodgkin's Disease, cancer of the esophagus, cancer of the small intestine, cancer of the endocrine system, cancer of the thyroid gland, cancer of the parathyroid gland, cancer of the adrenal gland, sarcoma of soft tissue, cancer of the

urethra, cancer of the penis, prostate cancer, chronic or acute leukemia, lymphocytic lymphomas, cancer of the bladder, cancer of the kidney or ureter, renal cell carcinoma, carcinoma of the renal pelvis, neoplasms of the central nervous system (CNS), primary CNS lymphoma, spinal axis tumors, brain stem glioma, pituitary adenoma, and combinations thereof.

12. The method of any one of claims 1-10, wherein the cancer is selected from the group consisting of non-small cell lung cancer (NSCLC), glioblastoma, squamous cell carcinoma, hormone-refractory prostate cancer, papillary renal cell carcinoma, colorectal adenocarcinoma, neuroblastomas, anaplastic large cell lymphoma (ALCL) and gastric cancer.

13. The method of any one of claims 1-10 wherein the cancer is non-small cell lung cancer (NSCLC).

14. The method of any one of claims 1-10 wherein the cancer is glioblastoma.

15. The method of any one of the preceding claims, wherein 3-[(*R*)-1-(2,6-dichloro-3-fluoro-phenyl)-ethoxy]-5-(1-piperidin-4-yl-1*H*-pyrazol-4-yl)-pyridin-2-ylamine or a pharmaceutically acceptable salt thereof is administered as a pharmaceutical composition comprising 3-[(*R*)-1-(2,6-dichloro-3-fluoro-phenyl)-ethoxy]-5-(1-piperidin-4-yl-1*H*-pyrazol-4-yl)-pyridin-2-ylamine or a pharmaceutically acceptable salt thereof and at least one pharmaceutically acceptable carrier.

We Claim:

1. The compound 3-[(*R*)-1-(2,6-dichloro-3-fluoro-phenyl)-ethoxy]-5-(1-piperidin-4-yl-1*H*-pyrazol-4-yl)-pyridin-2-ylamine or a pharmaceutically acceptable salt thereof, for use in the treatment of cancer in a mammal, wherein the cancer is mediated by at least one genetically altered ROS.

2. The compound of claim 1, wherein the mammal is a human.

3. The compound of claim 1, wherein the at least one genetically altered ROS is a genetically altered ROS gene.

4. The compound of claim 3, wherein the genetically altered ROS gene is a ROS fusion gene.

5. The compound of claim 4, wherein the ROS fusion gene is the SLC34A2-ROS gene or the CD74-ROS gene

6. The compound of claim 4, wherein the ROS fusion gene is the FIG-ROS gene.

7. The compound of claim 1, wherein the at least one genetically altered ROS is a ROS fusion protein.

8. The compound of claim 7, wherein the ROS fusion protein is SLC34A2-ROS kinase.

9. The compound of claim 7, wherein the ROS fusion protein is CD74-ROS kinase.

10. The compound of claim 7, wherein the ROS fusion protein is FIG-ROS kinase.

11. The compound of any one of claims 1-10, wherein the cancer is selected from lung cancer, bone cancer, pancreatic cancer, skin cancer, cancer of the head or neck, cutaneous or intraocular melanoma, uterine cancer, ovarian cancer, rectal cancer, cancer of the anal region, stomach cancer, colon cancer, breast cancer, carcinoma of the fallopian tubes, carcinoma of the endometrium, carcinoma of the cervix, carcinoma of the

vagina, carcinoma of the vulva, Hodgkin's Disease, cancer of the esophagus, cancer of the small intestine, cancer of the endocrine system, cancer of the thyroid gland, cancer of the parathyroid gland, cancer of the adrenal gland, sarcoma of soft tissue, cancer of the urethra, cancer of the penis, prostate cancer, chronic or acute leukemia, lymphocytic lymphomas, cancer of the bladder, cancer of the kidney or ureter, renal cell carcinoma, carcinoma of the renal pelvis, neoplasms of the central nervous system (CNS), primary CNS lymphoma, spinal axis tumors, brain stem glioma, pituitary adenoma, and combinations thereof.

12. The compound of any one of claims 1-10, wherein the cancer is selected from the group consisting of non-small cell lung cancer (NSCLC), glioblastoma, squamous cell carcinoma, hormone-refractory prostate cancer, papillary renal cell carcinoma, colorectal adenocarcinoma, neuroblastomas, anaplastic large cell lymphoma (ALCL) and gastric cancer.

13. The compound of any one of claims 1-10 wherein the cancer is non-small cell lung cancer (NSCLC).

14. The compound of any one of claims 1-10 wherein the cancer is glioblastoma.

15. The compound of any one of the preceding claims, wherein 3-[(*R*)-1-(2,6-dichloro-3-fluoro-phenyl)-ethoxy]-5-(1-piperidin-4-yl-1*H*-pyrazol-4-yl)-pyridin-2-ylamine or a pharmaceutically acceptable salt thereof is administered as a pharmaceutical composition comprising 3-[(*R*)-1-(2,6-dichloro-3-fluoro-phenyl)-ethoxy]-5-(1-piperidin-4-yl-1*H*-pyrazol-4-yl)-pyridin-2-ylamine or a pharmaceutically acceptable salt thereof and at least one pharmaceutically acceptable carrier.

16. Use of 3-[(*R*)-1-(2,6-dichloro-3-fluoro-phenyl)-ethoxy]-5-(1-piperidin-4-yl-1*H*-pyrazol-4-yl)-pyridin-2-ylamine or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment of cancer in a mammal, wherein the cancer is mediated by at least one genetically altered ROS.