

Claims

1. A crystalline fumarate salt of Compound I, wherein Compound I is (S)-[3,4-difluoro-2-(2-fluoro-4-iodophenylamino)phenyl] [3-hydroxy-3-(piperidin-2-yl) azetidin-1-yl]-methanone.
2. The crystalline fumarate salt of Compound I of claim 1, designated as Form A, wherein the crystalline fumarate salt of Compound I is characterized by at least one of the following:
 - (i) a ^1H NMR spectrum in d_6 DMSO substantially as depicted in FIG. 2;
 - (ii) a ^{13}C NMR spectrum in d_6 DMSO substantially as depicted in FIG. 3;
 - (iii) a solid state ^{13}C NMR spectrum with three or more peaks selected from 175.3, 173.6, 117.5, 155.5, and 153.5, ± 0.2 ppm;
 - (iv) a solid state ^{13}C NMR spectrum substantially as depicted in FIG. 4;
 - (v) a powder x-ray diffraction pattern ($\text{CuK}\alpha$ $\lambda=1.5418$ Å) comprising three or more 2θ values selected from 4.6, 12.1, 13.2, 13.6 and 14.5 ± 0.2 ° 2θ , wherein measurement of the crystalline form is at room temperature;
 - (vi) an x-ray powder diffraction (XRPD) pattern substantially in accordance with the pattern shown in FIG. 10; and
 - (vii) a differential scanning calorimetry thermogram substantially in accordance with FIG. 8.
3. The crystalline fumarate salt of Compound I of claim 1, designated as Form A, wherein said salt is characterized by a solid state ^{13}C NMR spectrum with three or more peaks selected from 175.3, 173.6, 117.5, 155.5, and 153.5, ± 0.2 ppm.
4. The crystalline fumarate salt of Compound I of claim 1, designated as Form A, wherein said salt is characterized by a powder x-ray diffraction pattern ($\text{CuK}\alpha$ $\lambda=1.5418$ Å) comprising three or more 2θ values selected from 4.6, 12.1, 13.2, 13.6 and 14.5 ± 0.2 ° 2θ , wherein measurement of the crystalline form is at room temperature.
5. The crystalline fumarate salt of Compound I of any of claims 1-4, wherein said salt is at least 90 weight % Form A, based on weight of said salt.
6. A pharmaceutical composition comprising the crystalline fumarate salt of Compound I of any of claims 1-4; and a pharmaceutically acceptable excipient.
7. Use of crystalline fumarate salt of Compound I of any one of claims 1-4, in the manufacture of a medicament for the treatment of cancer.
8. A crystalline fumarate salt of Compound I as defined in any one of claims 1-4, for use

in treating cancer.

9. The crystalline fumarate salt of Compound I for use of claim 8, wherein the cancer is selected from the group consisting of melanoma (including BRAF V600 mutant melanoma), breast cancer (including triple negative breast cancer), colorectal cancer (including KRAS mutant colorectal cancer), non-small cell lung cancer, acute myeloid leukemia, and pancreatic cancer.

10. The crystalline fumarate salt of Compound I for use of claim 9, wherein the cancer is melanoma.

11. The crystalline fumarate salt of Compound I for use of claim 10, wherein the cancer is BRAF V600 mutant melanoma.

12. The crystalline fumarate salt of Compound I for use of claim 10 or claim 11, wherein the crystalline fumarate salt of Compound I is administered in combination with vemurafenib.

13. The crystalline fumarate salt of Compound I for use of claim 12, wherein the crystalline fumarate salt of Compound I is administered prior or subsequent to, or concurrent with vemurafenib.

14. A process for preparing the crystalline fumarate salt of Compound I designated as Form A, as defined in any of claims 2-4, comprising:

adding fumaric acid dissolved in a solvent to a mixture of Compound I dissolved in a solvent to form the crystalline fumarate salt of Compound I designated as Form A; and

collecting the resulting crystals of the crystalline fumarate salt of Compound I designated as Form A.