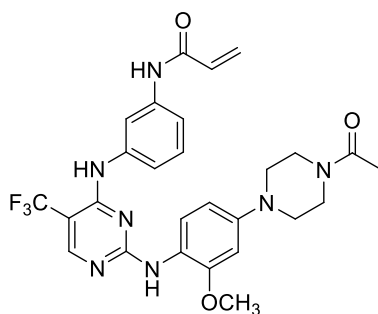


L858R/T790M mutation who never received gefitinib treatment. In addition, germline EGFR T790M mutations are linked with certain familial lung cancers.

[0007] Current drugs in development, including second-generation covalent inhibitors, such as BIBW2992, HKI-272 and PF-0299804, are effective against the T790M resistance mutation but exhibit dose-limiting toxicities due to concurrent inhibition of WT EGFR. Accordingly, there remains a need to find mutant-selective EGFR kinase inhibitors useful as therapeutic agents.

SUMMARY

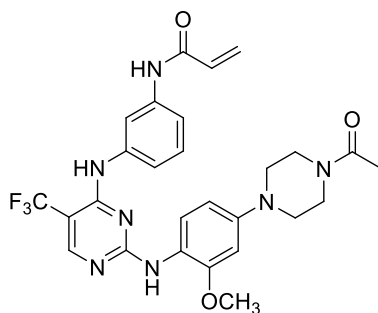
In an aspect of the present disclosure, there is provided a composition comprising a solid form of Compound **1**:



1,

wherein the solid form of Compound **1** is selected from the group consisting of Form A, Form B, Form C, Form D, Form E, Form F, Form G, Form H, and Form I; and wherein the composition is substantially free of impurities.

In another aspect of the present disclosure, there is provided a composition comprising Compound **1**:



1,

wherein Compound **1** is a crystalline solid form substantially free of an amorphous form of Compound **1**.

In a further aspect of the present disclosure, there is provided a use of a composition disclosed herein in the manufacture of a medicament for inhibiting at least one mutant of EGFR selectively as compared to wild type EGFR (WT EGFR) in a biological sample or in a patient.

In another aspect of the present disclosure, there is provided a use of a composition disclosed herein in the manufacture of a medicament for treating a mutant EGFR-mediated disorder or condition in a patient.

[0007] It has now been found that the novel solid forms of the present disclosure, and compositions thereof, are useful as mutant-selective inhibitors of one or more EGFR kinases and exhibits desirable characteristics for the same. In general, these solid forms, and pharmaceutically acceptable compositions thereof, are useful for treating or lessening the severity of a variety of diseases or disorders as described in detail herein.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] **Figure 1** depicts the x-ray powder diffraction (XRPD) pattern for Form A of Compound **1**.

[0009] **Figure 2** depicts the thermogravimetric analysis/differential thermal analyser (TGA/DTA) pattern for Form A of Compound **1**.

[0010] **Figure 3** depicts the differential scanning calorimetry (DSC) pattern for Form A of Compound **1**.

[0011] **Figure 4** depicts the infrared (IR) spectrum for Form A of Compound **1**.

[0012] **Figure 5** depicts the dynamic vapour sorption (DVS) pattern for Form A of Compound **1**.

[0013] **Figure 6** depicts the XRPD pattern for Form B of Compound **1**.

[0014] **Figure 7** depicts the TGA/DTA pattern for Form B of Compound **1**.

[0015] **Figure 8** depicts the DSC pattern for Form B of Compound **1**.

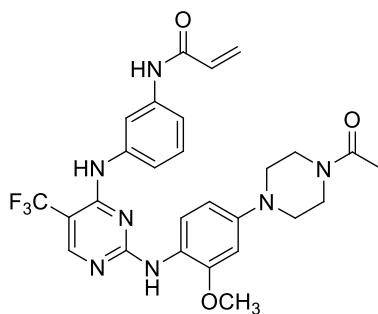
[0016] **Figure 9** depicts the IR spectrum for Form B of Compound **1**.

[0017] **Figure 10** depicts the DVS pattern for Form B of Compound **1**.

CLAIMS

We claim:

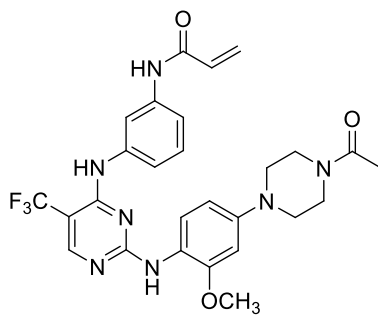
1. A composition comprising a solid form of Compound **1**:



1,

- wherein the solid form of Compound **1** is selected from the group consisting of Form A, Form B, Form C, Form D, Form E, Form F, Form G, Form H, and Form I; and wherein the composition is substantially free of impurities.
2. The composition of claim 1, wherein the composition comprises at least about 90% by weight of the solid form of Compound **1**.
 3. The composition of claim 2, wherein the composition comprises at least about 95% by weight of the solid form of Compound **1**.
 4. The composition of claim 3, wherein the composition comprises at least about 97% by weight of the solid form of Compound **1**.
 5. The composition of claim 4, wherein the composition comprises at least about 98% by weight of the solid form of Compound **1**.
 6. The composition of claim 5, wherein the composition comprises at least about 99% by weight of the solid form of Compound **1**.
 7. The composition of claim 6, wherein the composition comprises at least about 99.5% by weight of the solid form of Compound **1**.

8. The composition of claim 7, wherein the composition comprises at least about 99.8% by weight of the solid form of Compound **1**.
9. The composition of claim 1, wherein the composition contains no more than 5.0 area percent HPLC of total organic impurities relative to the total area of an HPLC chromatogram of the solid form of Compound **1**.
10. The composition of claim 9, wherein the composition contains no more than 3.0 area percent HPLC of total organic impurities relative to the total area of an HPLC chromatogram of the solid form of Compound **1**.
11. The composition of claim 10, wherein the composition contains no more than 1.5 area percent HPLC of total organic impurities relative to the total area of an HPLC chromatogram of the solid form of Compound **1**.
12. The composition of claim 11, wherein the composition contains no more than 1.0 area percent HPLC of total organic impurities relative to the total area of an HPLC chromatogram of the solid form of Compound **1**.
13. The composition of claim 12, wherein the composition contains no more than 0.6 area percent HPLC of total organic impurities relative to the total area of an HPLC chromatogram of the solid form of Compound **1**.
14. The composition of claim 13, wherein the composition contains no more than 0.5 area percent HPLC of total organic impurities relative to the total area of an HPLC chromatogram of the solid form of Compound **1**.
15. A composition comprising Compound **1**:



1,

wherein Compound **1** is a crystalline solid form substantially free of an amorphous form of Compound **1**.

16. The composition of claim 15, wherein Compound **1** is at least 90% crystalline.
17. The composition of claim 16, wherein Compound **1** is at least 95% crystalline.
18. The composition of claim 17, wherein Compound **1** is at least 97% crystalline.
19. The composition of claim 18, wherein Compound **1** is at least 98% crystalline.
20. The composition of claim 19, wherein Compound **1** is at least 99% crystalline.
21. Use of a composition of any one of claims 1-20 in the manufacture of a medicament for inhibiting at least one mutant of EGFR selectively as compared to wild type EGFR (WT EGFR) in a biological sample or in a patient.
22. Use of a composition of any one of claims 1-20 in the manufacture of a medicament for treating a mutant EGFR-mediated disorder or condition in a patient.
23. The use of claim 22, wherein the disorder or condition is a cancer.