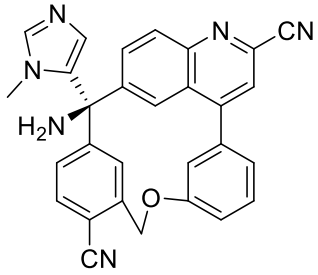
What is claimed is:

1. A solid form comprising Compound 1, or a pharmaceutically acceptable solvate thereof:



Compound 1,

wherein the solid form is crystalline.

2. The solid form of claim 1, wherein the solid form comprises the pharmaceutically acceptable solvate of the Compound 1.

3. The solid form of claim 1, wherein the solid form is the pharmaceutically acceptable solvate of the Compound 1, which comprises (1) the Compound 1 and (ii) a pharmaceutically acceptable solvent.

4. The solid form of claim 3, wherein the pharmaceutically acceptable solvate is selected from the group consisting of: a hydrate, an iso-butyl acetate solvate, an iso-propyl acetate solvate, a tetrahydrofuran solvate, an acetone solvate, and an acetonitrile solvate, and combinations thereof.

5. The solid form of claim 4, wherein the pharmaceutically acceptable solvate comprises (i) the Compound 1 and (ii) the pharmaceutically acceptable solvent in a molar ratio in the range of 2:1 to 1:2.

6. The solid form of claim 3, wherein the pharmaceutically acceptable solvate is a hydrate.

7. The solid form of claim 6, wherein the hydrate comprises (i) the Compound 1 and (ii) water in a molar ratio in the range of 2:1 to 1:2.

8. The solid form of claim 1, wherein the solid form is a crystalline, free base, hemi-hydrate of the

Compound 1.

9. The solid form of claim 8, wherein the solid form is Compound 1 (Form 1).

10. The solid form of claim 8, which is characterized by an X-ray power diffraction (XRPD) pattern, when measured using Cu Kα radiation, comprising peaks at approximately 9.0, 12.8, 16.6, and 18.4° 2θ.

11. The solid form of claim 10, wherein the XRPD pattern comprises a peak selected from the group consisting of approximately 8.6, 12.0, 18.1, and 23.2° 2θ.

12. The solid form of claim 11, wherein the XRPD pattern comprises a peak selected from the group consisting of approximately 16.1, 17.1, 24.1, and 25.6° 2θ.

13. The solid form of claim 8, which is characterized by an XRPD pattern that substantially matches the XRPD pattern shown in **FIG. 3**.

14. The solid form of claim 8, which is characterized by having approximately unit cell dimensions of: a = 15.2 Å, b = 7.9 Å, c = 20.7 Å, α = 90°, β = 107.8°, and γ = 90°, and a unit cell of a space group of $P2_1$.

15. The solid form of claim 8, which exhibits a thermal (endothermic) event with an onset temperature of about 83 °Cand a thermal (endothermic, melting) event with an onset temperature of about 212 °C, and/or an endothermic peak at about 137 °C and at about 221 °C, as characterized by differential scanning calorimetry (DSC) with a temperature ramp of about 10 °C/min; optionally which is characterized by a differential scanning calorimetry plot that substantially matches the DSC plot shown in **FIG. 4**.

16. The solid form of claim 8, which exhibits no weight loss upon heating below about 75 °C and a weight loss of about 1.8% upon heating from 75 °C to 170 °C, as characterized by thermal gravimetric analysis (TGA); optionally which is characterized by a thermal gravimetric analysis plot that substantially

matches the TGA plot shown in **FIG. 4**.

17. The solid form of claim 8, wherein the solid form has a purity of at least 98%, 98.5%, 99%, or 99.5%.

18. The solid form of claim 8, wherein the solid form has:

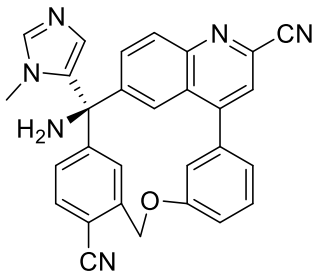
(a) a solubility of about 4.69, 5.04, or 3.67 mg/mL in simulated gastric fluid (SGF) media, at 0.5 h, 2 h, or 24 h, respectively; or

(b) a solubility of about 0.29, 0.31, or 0.33 mg/mL in mL in fed state simulated intestinal fluid (FeSSIF) media, at 0.5 h, 2 h, or 24 h, respectively;

or a combination thereof.

19. The solid form of claim 1, wherein the solid form comprises a non-solvate of the Compound 1; optionally wherein the solid form is a non-solvate of the Compound 1.

20. A solid form comprising a pharmaceutically acceptable solvate of Compound 1:



Compound 1,

wherein:

i) the pharmaceutically acceptable solvate is selected from the group consisting of: a hydrate, an iso-butyl acetate solvate, an iso-propyl acetate solvate, a tetrahydrofuran solvate, an acetone solvate, and an acetonitrile solvate, and combinations thereof; and

ii) the pharmaceutically acceptable solvate comprises (a) the Compound 1 and (b) a pharmaceutically acceptable solvent in a molar ratio in the range of 2:1 to 1:2.

21. The solid form of claim 20, wherein the pharmaceutically acceptable solvate is a hydrate.

22. The solid form of claim 21, wherein the hydrate comprises (i) the Compound 1 and (ii) water in a molar ratio in the range of about 2:1 (hemi-hydrate).

23. A pharmaceutical composition comprising:

i) the solid form of any one of claims 1-22, optionally, in an amount from 0.1 mg to 200 mg, and

ii) one or more pharmaceutically acceptable excipients.

24. The pharmaceutical composition of claim 23, wherein the amount of Compound 1 is 0.1 mg to 50 mg, 0.1 mg to 25 mg, or 1.0 mg to 10 mg, free base equivalent; optionally wherein the amount of Compound 1 is 1.0 mg to 10 mg free base equivalent.

25. The pharmaceutical composition of claim 23 or claim 24, wherein the amount of Compound 1 is about 0.2 mg free base equivalent, about 1.0 mg free base equivalent, about 10 mg free base equivalent, or about 50 mg free base equivalent.

26. The pharmaceutical composition of and one of claims 23-25, wherein the solid form is the crystalline, free base, hemi-hydrate of the Compound 1.

27. The pharmaceutical composition of claim 26, wherein the solid form is Compound 1 (Form 1).

28. The pharmaceutical composition of any one of claims 23-27, wherein the pharmaceutical composition is formulated as an immediate release oral dosage form; optionally wherein the pharmaceutical composition is a tablet; optionally wherein the tablet is a coated tablet.

29. The pharmaceutical composition of any one of claims 23-28, wherein the one or more pharmaceutically acceptable excipients comprises a filler, a glidant, a disintegrant, a lubricant, or a binder, or combinations thereof.

30. The pharmaceutical composition of any one of claims 23-29, wherein the pharmaceutical composition comprises a filler; optionally wherein the filler is present in an amount of from 40 to 95 % w/w; optionally wherein the filler is silicified microcrystalline cellulose, microcrystalline cellulose, D-mannitol, or a combination thereof; optionally wherein the filler is silicified microcrystalline cellulose.

31. The pharmaceutical composition of claim 30, wherein (a) the solid form is present in an amount of from 0.1 mg to 25 mg free base equivalent, and the silicified microcrystalline cellulose is present in an amount from 70 to 97 % w/w, (b) the solid form is present in an amount of from 1.0 mg to 10 mg free base equivalent, and the silicified microcrystalline cellulose is present in an amount from 70 to 97 % w/w, or (c) the solid form is present in an amount of from25 mg to200 mg free base equivalent, and the silicified microcrystalline cellulose is present in an amount from 40 to 70 % w/w.

32. The pharmaceutical composition of claim 31, wherein:

i) the solid form is present in an amount of about 0.2 mg free base equivalent, and the silicified microcrystalline cellulose is present in an amount of 75 to 95 % w/w and 73 to 75.4 mg;
ii) the solid form is present in an amount of about 1.0 mg free base equivalent, and the silicified microcrystalline cellulose is present in an amount of 75 to 95 % w/w and (a) 80 to 380 mg, or (b) 80 to 90 mg, or (c)370 to 378 mg;
iii) the solid form is present in an amount of about 10 mg free base equivalent, and the silicified microcrystalline cellulose is present in an amount of 75 to 95 % w/w and 75 to 85 mg; or
iv) the solid form is present in an amount of about 50 mg free base equivalent, and the silicified microcrystalline cellulose is present in an amount of 40 to 50 % w/w and 40 to 50 mg or the silicified microcrystalline cellulose is present in 60 to 70 % w/w and 60 to 70 mg.

33. The pharmaceutical composition of any one of claims 23-32, wherein the pharmaceutical composition comprises a glidant; optionally wherein the amount of glidant is colloidal silicon dioxide; optionally wherein the colloidal silicon dioxide is present in an amount of 0.5 to 5 % w/w, or about 0.5, about 1.0, or about 1.5 % w/w, or about 1.0 % w/w.

34. The pharmaceutical composition of any one of claims 23-33, wherein the pharmaceutical composition comprises a disintegrant; optionally wherein the disintegrant is croscarmellose sodium; optionally wherein the disintegrant is present in an amount of from1 to 6 % w/w, or about 2.0, about 2.5, about 3.0, about 3.5, or about 4.0 % w/w, or about 3.0 % w/w.

35. The pharmaceutical composition of any one of claims 23-34, wherein the pharmaceutical composition comprises a lubricant; optionally wherein the lubricant is magnesium stearate; optionally wherein the lubricant is present in an amount of from 0.5 to 2.5 % w/w, or about 0.5, about 1.0, about 1.5, or about 2.0 % w/w, or about 1.0 % w/w, or about 1.5 % w/w.

36. The pharmaceutical composition of any one of claims 23-35, wherein the pharmaceutical composition comprises a binder; optionally wherein the binder is povidone; optionally wherein the binder is present in an amount of 3 to 10 % w/w and 3 to 15 mg.

37. The pharmaceutical composition of any one of claims 23-36, wherein the core tablet comprises: (a) an intragranular portion comprising the Compound 1 (Form 1), the silicified microcrystalline cellulose, the colloidal silicon dioxide, the croscarmellose sodium, and povidone; and (b) an extragranular portion comprising the magnesium stearate.

38. The pharmaceutical composition of any one of claims 23-37, comprising:

1) (a) a core tablet comprising about 0.21 mg Compound 1 (Form 1), about 75.4 mg silicified microcrystalline cellulose, about 0.8 mg colloidal silicon dioxide, about 2.4 mg croscarmellose sodium, and about 1.2 mg magnesium stearate; and (b) a tablet coating;
2) (a) a core tablet comprising about 1.03 mg Compound 1 (Form 1), about 377.0 mg silicified microcrystalline cellulose, about 4.0 mg colloidal silicon dioxide, about 12.0 mg croscarmellose sodium, and about 6.0 mg magnesium stearate; and (b) a tablet coating.
3) (a) a core tablet comprising about 1.03 mg Compound 1 (Form 1), about 5.0 mg povidone, about 88.97 mg silicified microcrystalline cellulose, about 1.0 mg colloidal silicon dioxide, about 3.0 mg croscarmellose sodium, and about 1.0 mg magnesium stearate; and (b) a tablet coating;
4) (a) a core tablet comprising about 10.3 mg Compound 1 (Form 1), about 84.2 mg silicified

microcrystalline cellulose, about 1.0 mg colloidal silicon dioxide, about 3.0 mg croscarmellose sodium, and about 1.5 mg magnesium stearate; and (b) a tablet coating;

5) (a) a core tablet comprising about 10.3 mg Compound 1 (Form 1), about 5.0 mg povidone, about 79.7 mg silicified microcrystalline cellulose, about 1.0 mg colloidal silicon dioxide, about 3.0 mg croscarmellose sodium, and about 1.0 mg magnesium stearate; and (b) a tablet coating;
6) (a) a core tablet comprising about 51.5 mg Compound 1 (Form 1), about 43.0 mg silicified microcrystalline cellulose, about 1.0 mg colloidal silicon dioxide, about 3.0 mg croscarmellose sodium, and about 1.5 mg magnesium stearate; and (b) a tablet coating;
7) (a) a core tablet comprising about 51.4 mg Compound 1 (Form 1), about 43.1 mg silicified microcrystalline cellulose, about 1.0 mg colloidal silicon dioxide, about 3.0 mg croscarmellose sodium, and about 1.5 mg magnesium stearate; and (b) a tablet coating; or
8) (a) a core tablet comprising about 52 mg Compound 1 (Form 1), about 10.0 mg povidone, about 128 mg silicified microcrystalline cellulose, about 2.0 mg colloidal silicon dioxide, about 6.0 mg croscarmellose sodium, and about 2.0 mg magnesium stearate; and (b) a tablet coating.

39. The pharmaceutical composition of any one of claims 23-38, wherein the core tablet comprises:

1) (a) an intragranular portion comprising 51.5 mg Compound 1 (Form 1), about 43.0 mg silicified microcrystalline cellulose, about 1.0 mg colloidal silicon dioxide, about 2.0 mg croscarmellose sodium, and about 1.0 mg magnesium stearate; and (b) an extragranular portion comprising about 1.0 mg croscarmellose sodium and about 0.5 mg magnesium stearate; or
2) (a) an intragranular portion comprising 51.4 mg Compound 1 (Form 1), about 43.1 mg silicified microcrystalline cellulose, about 1.0 mg colloidal silicon dioxide, about 2.0 mg croscarmellose sodium, and about 1.0 mg magnesium stearate; and (b) an extragranular portion comprising about 1.0 mg croscarmellose sodium and about 0.5 mg magnesium stearate.

40. The pharmaceutical composition of any one of claims 23-39, wherein the pharmaceutical composition is a coated tablet, wherein the tablet coating is a spray dry film coating; optionally wherein the tablet coating comprises a polymer, a plasticizer, and a pigment; optionally wherein the tablet coating comprises polyvinyl alcohol, titanium dioxide, polyethylene glycol, and talc.

41. Use of the solid form of any one of claims 1-22, or the pharmaceutical composition of any one of claims 23-40, in the manufacture of a medicament for inhibiting a farnesyltransferase, wherein the farnesyltransferase is to be contacted with an effective amount of solid form or with the pharmaceutical composition;
optionally wherein the farnesyltransferase is present in a cell,
optionally wherein the contacting of the farnesyltransferase takes place in a cell, optionally wherein the cell is in a subject, optionally wherein the cell is a mammalian cell, optionally wherein the cell is a human cell, and
optionally wherein the subject suffers from a cancer dependent on a farnesylated protein.

42. Use of the solid form of any one of claims 1-22, or the pharmaceutical composition of any one of claims 23-40, in the manufacture of a medicament for treating cancer dependent on a farnesylated protein in a subject, wherein a therapeutically effective amount of the solid form or the pharmaceutical composition is to be administered to the subject having cancer dependent on a farnesylated protein, optionally wherein the subject is human.

43. The use of claim 41 or claim 42, wherein the cancer dependent on a farnesylated protein is a cancer dependent on farnesylated H-Ras protein, optionally wherein the cancer dependent on a farnesylated H-Ras protein has an H-Ras protein mutation, optionally wherein the H-Ras protein mutation is or comprises a modification in a codon that encodes an amino acid substitution at a specific position selected from G12, Gl3, Q61, Q22, K117, A146, and any combination thereof, in the corresponding mutant H-Ras protein;
optionally wherein the presence or absence of the H-Ras mutation has been determined by analysis of nucleic acids obtained from a sample from the subject, optionally wherein the sample is a tissue biopsy or is a tumor biopsy, optionally wherein the H-Ras mutation has been determined by sequencing, Polymerase Chain Reaction (PCR), DNA microarray, Mass Spectrometry (MS), Single Nucleotide Polymorphism (SNP) assay, denaturing high-performance liquid chromatography (DHPLC), or Restriction Fragment Length Polymorphism (RFLP) assay.

44. The use of any one of claims 41-43, wherein the cancer dependent on a farnesylated protein is thyroid cancer, head and neck cancer, urothelial cancer, salivary cancer, cancer of the upper digestive tract, bladder cancer, breast cancer, ovarian cancer, brain cancer, gastric cancer, prostate cancer, lung cancer, colon cancer, skin cancer, liver cancer, or pancreatic cancer.

45. The use of any one of claims 41-44, wherein the cancer dependent on a farnesylated protein is head and neck cancer, optionally wherein the head and neck cancer is head and neck squamous cell carcinoma (HNSCC); or
wherein the cancer dependent on a farnesylated protein is Squamous Cell Carcinoma (SCC), optionally wherein the SCC is head and neck SCC (HNSCC), lung SCC (LSCC), thyroid SCC (TSCC), esophagus SCC (ESCC), bladder SCC (BSCC) or urothelial carcinoma (UC), optionally wherein the SCC is HNSCC, optionally wherein the HNSCC is HNSCC of the trachea, HNSCC of the maxilla, HNSCC of the oral cavity.

46. The use of any one of claims 41-45, wherein the cancer dependent on a farnesylated protein is a solid tumor.