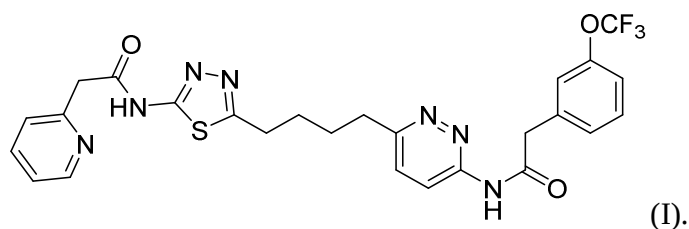
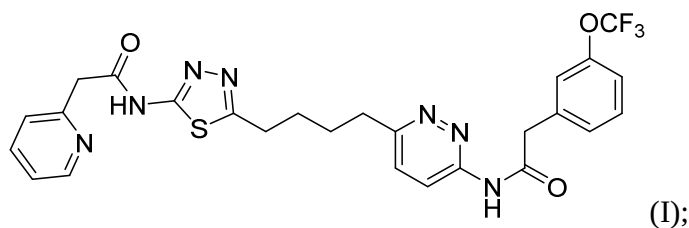


CLAIMS

1. A crystalline salt of a compound having the structure of formula (I),

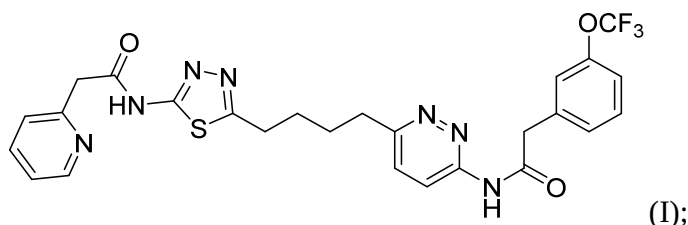


2. The crystalline salt of claim 1, wherein the salt is a hydrochloride salt, a toluenesulfonate salt, a nitrate salt, a methanesulfonate salt, or a hydrobromide salt.
3. The crystalline salt of claim 2, wherein the salt is a hydrochloride salt.
4. The crystalline salt of claim 3, having 2θ values 16.70; 17.26; 21.09; 22.69.
5. The crystalline salt of claim 4, having 2θ values 16.70; 17.26; 18.18; 21.09; 22.69; 23.46; 25.22; 25.49; 26.72.
6. The crystalline salt of claim 5, having an XRD pattern substantially as shown in FIG. 1.
7. The crystalline salt of claim 3, having 2θ values 8.34; 18.83; 21.10.
8. The crystalline salt of claim 7, having 2θ values 6.26; 8.34; 15.82; 18.83; 21.10; 23.42; 24.10; 24.45; 25.25; 25.74.
9. The crystalline salt of claim 8, having an XRD pattern substantially as shown in FIG. 2.
10. A salt of a compound having the structure of formula (I),



wherein the salt is a di(hydrochloride) salt.

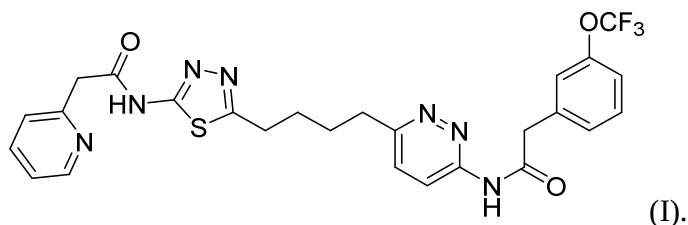
11. A pharmaceutical composition comprising the salt of any one of claims 1-10 and one or more pharmaceutically acceptable excipients.
12. A salt of any one of claims 1-10 or a pharmaceutical composition of claim 11 for use as a medicament.
13. A method for preparing a crystalline salt of a compound having the structure of formula (I):



comprising:

- a) providing a freebase mixture of a compound of formula (I) in a first organic solvent;
 - b) contacting the freebase mixture with a reagent solution under conditions sufficient to form a mixture comprising a salt of the compound of formula (I), wherein the reagent solution comprises an acid and optionally a second organic solvent; and
 - c) crystallizing the salt of the compound of formula (I) from the mixture comprising a salt of the compound of formula (I).
14. The method of claim 13, wherein the crystalline salt is a hydrochloride salt, a toluenesulfonate salt, a nitrate salt, a methanesulfonate salt, or a hydrobromide salt.
 15. The method of claim 13, wherein the first organic solvent and the second organic solvent, if present, are the same.
 16. The method of claim 13, wherein the first organic solvent and the second organic solvent, if present, are different.

17. The method of any one of claims 13-16, wherein the first organic solvent and the second organic solvent each independently comprise ethanol and/or acetonitrile.
18. The method of any one of claims 13-17, wherein the acid is hydrochloric acid, p-toluenesulfonic acid, methanesulfonic acid, nitric acid, or hydrobromide acid.
19. The method of any one of claims 13-18, wherein the acid of step b) exists in the reagent solution in a molar amount that is from about 1.0 to about 1.5 times the molar amount of the compound of formula (I) in the freebase mixture.
20. The method of any one of claims 13-19, wherein the mixture comprising a salt of the compound of formula (I) is a solution, and the step of crystallizing the salt of the compound of formula (I) from the mixture comprises bringing the solution to supersaturation to cause the salt of the compound of formula (I) to precipitate out of solution.
21. The method of any one of claims 13-20, further comprising isolating the crystalline salt.
22. The method of claim 21, wherein isolating the crystalline salt comprises filtering the crystallized salt from the mixture.
23. The method of claim 21 or claim 22, further comprising drying the crystalline salt under reduced pressure.
24. The method of any one of claims 13-23, wherein the crystalline salt is the crystalline salt of any one of claims 1-12.
25. A crystalline compound having the structure of formula (I),



26. The crystalline compound of claim 25, having 2 θ values 18.39; 19.10; 21.37; 24.65.
27. The crystalline compound of claim 26, having 2 θ values 7.92; 18.39; 19.10; 20.12; 21.37; 24.10; 24.65; 25.14.
28. The crystalline compound of claim 27, having an XRD pattern substantially as shown in FIG. 6.
29. The crystalline compound of claim 25, having 2 θ values 7.57; 18.50; 18.69.
30. The crystalline compound of claim 29, having 2 θ values 7.57; 9.67; 11.00; 12.93; 15.20; 18.50; 18.69; 23.33; 24.87.
31. The crystalline compound of claim 30, having an XRD pattern substantially as shown in FIG. 7.
32. Use of a salt of any one of claims 1-10 or a pharmaceutical composition of claim 11 in the manufacture of a medicament for treating or preventing cancer or an immunological or neurological disease.
33. The use of claim 32, wherein the cancer is selected from Acute Lymphoblastic Leukemia (ALL), Acute Myeloid Leukemia (AML), Adrenocortical Carcinoma, Anal Cancer, Appendix Cancer, Atypical Teratoid/Rhabdoid Tumor, Basal Cell Carcinoma, Bile Duct Cancer, Bladder Cancer, Bone Cancer, Brain Tumor, Astrocytoma, Brain and Spinal Cord Tumors, Brain Stem Glioma, Central Nervous System Atypical Teratoid/Rhabdoid Tumor, Central Nervous System Embryonal Tumors, Breast Cancer, Bronchial Tumors, Burkitt Lymphoma, Carcinoid Tumor, Carcinoma of Unknown Primary, Central Nervous System Cancer, Cervical Cancer, Childhood Cancers, Chordoma, Chronic Lymphocytic Leukemia (CLL), Chronic Myelogenous Leukemia (CML), Chronic Myeloproliferative Disorders, Colon Cancer, Colorectal Cancer, Craniopharyngioma, Cutaneous T-Cell Lymphoma, Ductal Carcinoma In Situ (DCIS), Embryonal Tumors, Endometrial Cancer, Ependymoblastoma, Ependymoma, Esophageal Cancer, Esthesioneuroblastoma, Ewing Sarcoma, Extracranial Germ Cell Tumor, Extragonadal

Germ Cell Tumor, Extrahepatic Bile Duct Cancer, Eye Cancer, Fibrous Histiocytoma of Bone, Gallbladder Cancer, Gastric Cancer, Gastrointestinal Carcinoid Tumor, Gastrointestinal Stromal Tumors (GIST), Germ Cell Tumor, Extracranial Germ Cell Tumor, Extragonadal Germ Cell Tumor, Ovarian Germ Cell Tumor, Gestational Trophoblastic Tumor, Glioma, Hairy Cell Leukemia, Head and Neck Cancer, Heart Cancer, Hepatocellular Cancer, Histiocytosis, Langerhans Cell Cancer, Hodgkin Lymphoma, Hypopharyngeal Cancer, Intraocular Melanoma, Islet Cell Tumors, Kaposi Sarcoma, Kidney Cancer, Langerhans Cell Histiocytosis, Laryngeal Cancer, Leukemia, Lip and Oral Cavity Cancer, Liver Cancer, Lobular Carcinoma In Situ (LCIS), Lung Cancer, Lymphoma, AIDS-Related Lymphoma, Macroglobulinemia, Male Breast Cancer, Medulloblastoma, Medulloepithelioma, Melanoma, Merkel Cell Carcinoma, Malignant Mesothelioma, Metastatic Squamous Neck Cancer with Occult Primary, Midline Tract Carcinoma Involving *NUT* Gene, Mouth Cancer, Multiple Endocrine Neoplasia Syndrome, Multiple Myeloma/Plasma Cell Neoplasm, Mycosis Fungoides, Myelodysplastic Syndrome, Myelodysplastic/Myeloproliferative Neoplasm, Chronic Myelogenous Leukemia (CML), Acute Myeloid Leukemia (AML), Myeloma, Multiple Myeloma, Chronic Myeloproliferative Disorder, Nasal Cavity Cancer, Paranasal Sinus Cancer, Nasopharyngeal Cancer, Neuroblastoma, Non-Hodgkin Lymphoma, Non-Small Cell Lung Cancer, Oral Cancer, Oral Cavity Cancer, Lip Cancer, Oropharyngeal Cancer, Osteosarcoma, Ovarian Cancer, Pancreatic Cancer, Papillomatosis, Paraganglioma, Paranasal Sinus Cancer, Nasal Cavity Cancer, Parathyroid Cancer, Penile Cancer, Pharyngeal Cancer, Pheochromocytoma, Pineal Parenchymal Tumors of Intermediate Differentiation, Pineoblastoma, Pituitary Tumor, Plasma Cell Neoplasm, Pleuropulmonary Blastoma, Breast Cancer, Primary Central Nervous System (CNS) Lymphoma, Prostate Cancer, Rectal Cancer, Renal Cell Cancer, Renal Pelvis Cancer, Ureter Cancer, Transitional Cell Cancer, Retinoblastoma, Rhabdomyosarcoma, Salivary Gland Cancer, Sarcoma, Sézary Syndrome, Skin Cancer, Small Cell Lung Cancer, Small Intestine Cancer, Soft Tissue Sarcoma, Squamous Cell Carcinoma, Squamous Neck Cancer with Occult Primary, Metastatic, Stomach Cancer, Supratentorial Primitive Neuroectodermal Tumors, T-Cell Lymphoma, Testicular Cancer, Throat Cancer, Thymoma, Thymic Carcinoma, Thyroid Cancer, Transitional Cell Cancer of the Renal Pelvis and Ureter, Gestational Trophoblastic Tumor,

Unknown Primary, Unusual Cancers of Childhood, Urethral Cancer, Uterine Cancer, Uterine Sarcoma, Waldenström Macroglobulinemia, and Wilms Tumor.

34. The use of claim 32 or claim 33, wherein the medicament is for conjoint administration with one or more chemotherapeutic medicaments.

35. The use of any one of claims 32-34, wherein the medicament is for administration with one or more non-chemical methods of cancer treatment.