

## Product Specification Sheet

**Product Name:** CUDC-907

**Catalog Number:** C2907

**Technical information:**

Chemical Formula:  $C_{23}H_{24}N_8O_4S$

CAS #: 1339928-25-4

Molecular Weight: 508.55

Purity: > 98%

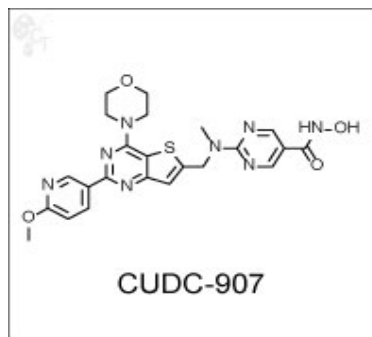
Appearance: White solid

Solubility: Soluble in DMSO up to 22 mM

Chemical Name: N-hydroxy-2-(((2-(6-methoxypyridin-3-yl)-4-morpholinothieno[3,2-d]pyrimidin-6-yl)methyl)(methyl)amino)pyrimidine-5-carboxamide

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



- Handling:**
- To make 10 mM stock solution, add 0.197mL of DMSO for each mg of CUDC-907
  - For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

**Biological Activity:** CUDC-907 is an orally-available, synergistic dual inhibitor of class I PI3K enzymes and class I and II HDAC enzymes. Its inhibition profile against PI3Ka, PI3Kb, and PI3Kd, is 19, 54, and 39 nM, respectively, while HDAC activity is 1.7, 5.0, 1.8, 27, and 2.8 nM for HDAC1, HDAC2, HDAC3, HDAC6, and HDAC10, respectively. [1]

Through its dual action activity, CUDC-907 durably inhibits the PI3K-AKT-mTOR pathway and compensatory signaling molecules such as RAF, MEK, MAPK, and STAT3. In H1975 NSCLC cells and BT-474 cells, CUDC-907 was shown to reduce both phosphorylated and total protein levels of MET/EGFR, and HER2/3, respectively. [2] The integration of HDAC inhibition to a PI3K agent is thought to prevent the development of drug resistance. CUDC-907 induces apoptosis and G2-M cell cycle arrest, and also induces caspase-3 and -7 activation in HCT-116 colon cancer cells in a dose-dependent manner.

- Reference:**
1. Bao et al., Antitumor Activity of CUDC-907, a Single Small Molecule Inhibitor That Targets Both PI3K and HDAC, in Hematologic Cancer Models. EORTC-AACR meeting poster, 2011.
  2. Qian et al., Cancer network disruption by a single molecule inhibitor targeting both histone deacetylase activity and phosphatidylinositol 3-kinase signaling. Clin. Cancer Res. 2012, 18, 4104-4113. Pubmed ID: 22693356

To reorder: <http://www.cellagentech.com/CUDC-907/>

For Technical Support: [technical@cellagentech.com](mailto:technical@cellagentech.com)

*Chemicals are sold for research use only, not for clinical or diagnostic use.*