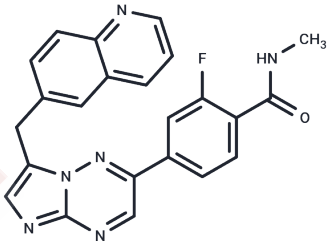
Data Sheet (Cat.No.T1963)

TargetMol

Capmatinib

Chemical Properties



CAS No. : 1029712-80-8

Formula: C23H17FN6O

Molecular Weight: 412.42

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Capmatinib (INCB28060) is an orally active, highly selective, ATP-competitive c-Met tyrosine kinase inhibitor with an IC50 value of 0.13 nM. Capmatinib effectively inhibits the proliferation and migration of c-Met-dependent tumor cells, induces apoptosis, and exhibits antitumor activity.
Targets(IC50)	Apoptosis,c-Met/HGFR
In vitro	**Methods**: HUVEC and THP-1 cells were treated with Capmatinib at a concentration gradient (0–10 nM) for 24 hours, followed by CCK-8 assay to assess cell viability. **Results**: Capmatinib at 0–5 nM showed no effect on cell viability in either cell line, while 10 nM Capmatinib significantly reduced cell viability. [1] **Methods**: HUVECs were pretreated with Capmatinib (1, 2.5, 5 nM) and LPS (200 ng/mL) for 24 hours, then co-incubated with THP-1 cells for 30 minutes. THP-1 cells were labeled with a green fluorescent dye and co-incubated with CAP-pretreated HUVECs. Adherent THP-1 cells were counted under a microscope. **Results**: LPS significantly enhanced THP-1 adhesion to HUVECs, and Capmatinib dose-dependently reversed this effect. [1]
In vivo	**Methods**: Nude mice were used to establish a brain metastasis model via left ventricular injection of PC9-BrM cells (stably expressing GFP-luciferase). Following successful model establishment, mice received intraperitoneal injections of Capmatinib (6 mg/kg, five times weekly for 5 weeks), tail vein injections of anetumab (0.2 mg/kg, twice weekly for 5 weeks), or combined therapy. **Results**: Capmatinib monotherapy significantly inhibited brain metastasis and prolonged mouse survival. Capmatinib + anetumab combination therapy demonstrated optimal efficacy, significantly extending mouse survival compared to the control group while exhibiting the least BBB leakage. [2]
Kinase Assay	c-Met Kinase Assay: The assay buffer contains 50 mM Tris-HCl, 10 mM MgCl2, 100 mM NaCl, 0.1 mg/ml BSA, 5 mM DTT, pH 7.8. For HTS 0.8 μL of 5 mM of INCB28060 dissolved in DMSO are dotted on 384-well plates. DMSO titration suggests that the maximum tolerated concentration of the solvent is 4%. To measure IC50s the INCB28060 plate is prepared by 3-fold and 11-point serial dilutions. 0.8 μL of INCB28060 in DMSO is transferred from INCB28060 plate to the assay plate. The final concentration of DMSO is 2%. Solutions of 8 nM unphosphorylated c-Met or 0.5 nM phosphorylated c-Met are prepared in assay buffer. A 1 mM stock solution of peptide substrate Biotin-

Kinase Assay	EQEDEPEGDYFEWLE-amide dissolved in DMSO is diluted to 1 μM in assay buffer containing 400 μM ATP (unphosphorylated c-Met) or 160 uM ATP (phosphorylated c-Met). A 20 μL volume of enzyme solution (or assay buffer for the enzyme blank) is added to the appropriate wells in each plate and then 20 μL/well of substrate solution to initiate the reaction. The plate is protected from light and incubated at 25 °C for 90 minutes. The reaction is stopped by adding 20 μL of a solution containing 45 mM EDTA, 50 mM Tris-HCl, 50 mM NaCl, 0.4 mg/ml BSA, 200 nM SA-APC and 3 nM EUPy20. The plate is incubated for 15-30 minutes at room temperature and HTRF (homogenous time resolved fluorescence) is measured on a Perkin Elmer Fusion α-FP instrument. The HTRF program settings used are as follows: Primary excitation filter 330/30, Primary window: 200 uSec, Primary delay: 50 uSec, Number of flashes: 15, Well read time: 2000
Cell Research	H441 cells are seeded in RPMI-1640 medium containing 10% FBS and grown to complete confluence. Gaps are introduced by scraping cells with a P200 pipette tip. Cells are then stimulated with 50 ng/mL recombinant human HGF to induce migration across the gap in the presence of various concentrations of INCB28060. After an overnight incubation, representative photographs are taken and a semiqualitative assessment of inhibition of cell migration is conducted.(Only for Reference)

Solubility Information

Solubility	DMSO: 4.13 mg/mL (10.01 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4247 mL	12.1236 mL	24.2471 mL
5 mM	0.4849 mL	2.4247 mL	4.8494 mL
10 mM	0.2425 mL	1.2124 mL	2.4247 mL
50 mM	0.0485 mL	0.2425 mL	0.4849 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Park HS, Abd El-Aty AM, Jeong JH, Lee T, Jung TW. Capmatinib suppresses LPS-induced interaction between HUVECs and THP-1 monocytes through suppression of inflammatory responses. Biomed J. 2023 Apr;46(2):100534.
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