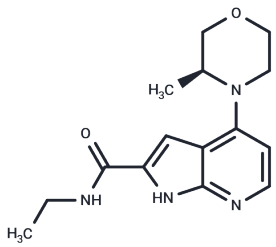
Data Sheet (Cat.No.T14509)

TargetMol

BAY-707

Chemical Properties



CAS No. : 2109805-96-9

Formula: C15H20N4O2

Molecular Weight: 288.34

Storage: 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	BAY-707, a highly potent and selective substrate-competitive inhibitor of MTH1 (NUDT1) with an IC50 of 2.3 nM, is well-tolerated in mice and exhibits a favorable pharmacokinetic (PK) profile compared to other MTH1 compounds. However, it demonstrates a clear lack of anticancer efficacy both in vitro and in vivo[1].
Targets(IC50)	Others,DNA/RNA Synthesis
In vitro	BAY-707 exhibits superior cellular target engagement with an EC50 of 7.6 nM, reflecting higher enzymatic potency (IC50=2.3 nM)[1] and demonstrates high cell permeability in the Caco-2 assay with an efflux ratio of 288 nm/s[1]. BAY-707 (0-30 μM; 24 hours) shows no antiproliferative effects in HMEC, HeLa, and SW-480 cells[1]. It has a favorable physicochemical profile and promising in vitro pharmacokinetic properties, with high metabolic stability in both human microsomes (0.29 L/h/kg, Fmax=78%) and rat hepatocytes (0.54 L/h/kg, Fmax=87%)[1].
In vivo	BAY-707 (orally adminstation; 50-250 mg/kg; 2 weeks) is well-tolerated in nude mice, after 7-days treatment, body weight loss does not exceed 10% [1] and it also exhibits superior biochemical potency, cellular target engagement, and a pharmacokinetic profile to other MTH1 tool compounds. However, Bay-077 exerts no anticancer efficacy either in mono- or in combination therapies in CT26 and NCI-H460 mice model[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4681 mL	17.3406 mL	34.6813 mL
5 mM	0.6936 mL	3.4681 mL	6.9363 mL
10 mM	0.3468 mL	1.7341 mL	3.4681 mL
50 mM	0.0694 mL	0.3468 mL	0.6936 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

Ellermann M, et al. Novel Class of Potent and Cellularly Active Inhibitors Devalidates MTH1 as Broad-Spectrum Cancer Target.ACS Chem Biol. 2017 Aug 18;12(8):1986-1992.