Data Sheet (Cat.No.T72947)

TargetMol

JBSNF-000028

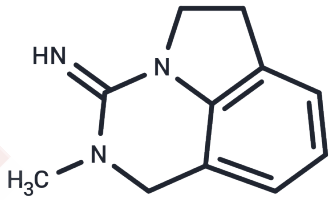
Chemical Properties

CAS No. :

Formula: C11H13N3

Molecular Weight: 187.24

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	JBSNF-000028 belongs to small molecule inhibitors, serving as a nicotinamide N-methyltransferase (NNMT) inhibitor (IC50=33 nM (human), 190 nM (monkey), 210 nM (mouse)), with oral activity and cell permeability, for research on metabolic disorders, possessing insulin-sensitizing, glucose-lowering, and weight-reducing effects.
Targets(IC50)	Others
In vitro	**Methods**: The inhibitory effect of JBSNF-000028 hydrochloride on NNMT activity was evaluated in U2OS cells (24 hours); cytotoxicity was detected in HepG2 cells (72 hours); and the binding mechanism and selectivity were studied through structural analysis and broad target screening. **Results**: JBSNF-000028 hydrochloride inhibited NNMT activity with an EC50 of 2.5 μM; showed no cytotoxicity to HepG2 cells (10-100 μM); bound through a hairpin structure located beneath the nicotinamide pocket by stacking with Tyr-204 and Leu-164; and exhibited no activity against metabolism and safety-related target panels. [1]
In vivo	**Methods**: In diet-induced obese (DIO) mice and NNMT knockout DIO mice, JBSNF-000028 hydrochloride (50 mg/kg; twice daily) was administered orally for 27 days and 4 weeks, respectively, to evaluate its effects on glucose and lipid metabolism. **Results**: JBSNF-000028 hydrochloride improved glucose and lipid metabolism in DIO mice and enhanced glucose tolerance in NNMT knockout DIO mice. [1]

Solubility Information

Solubility	DMSO: 8.8 mg/mL (47 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.3407 mL	26.7037 mL	53.4074 mL
5 mM	1.0681 mL	5.3407 mL	10.6815 mL
10 mM	0.5341 mL	2.6704 mL	5.3407 mL
50 mM	0.1068 mL	0.5341 mL	1.0681 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

Ruf S, et al. Novel tricyclic small molecule inhibitors of Nicotinamide N-methyltransferase for the treatment of metabolic disorders. Sci Rep. 2022 Sep 14;12(1):15440.