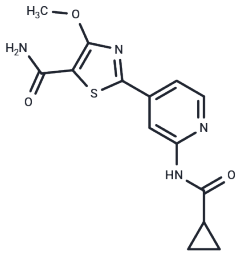
Data Sheet (Cat.No.T11471)

TargetMol

GSK-3β inhibitor 2

Chemical Properties



CAS No. : 1702428-31-6

Formula: C14H14N4O3S

Molecular Weight: 318.35

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	GSK-3β inhibitor 2 (5-Thiazolecarboxamide,2-[2-[(cyclopropylcarbonyl)amino]-4-pyridinyl]-4-methoxy-) is a BBB-crossing and selective inhibitor of GSK-3β (IC50 = 1.1 nM). GSK-3β inhibitor 2 can be used in studies about Alzheimer's disease.
Targets(IC50)	GSK-3
In vitro	The pyridine carboxamide of GSK-3β inhibitor 2 forms hydrogen bonds with the hinge V135 backbone amide, while the carbonyl oxygen of the thiazolyl primary amide establishes a critical hydrogen bond with K85. Single crystal X-ray diffraction confirms intramolecular hydrogen bonding between the methoxy -O- and the amide N-H in GSK-3β inhibitor 2 [1].
In vivo	In LaFerla 3xTg-C57BL6 mice with Alzheimer's disease, GSK-3β inhibitor 2 (30 mg/kg; oral) significantly reduces hyperphosphorylated Tau396. GSK-3β inhibitor 2 shows only modest brain exposure (B/P = 0.26), determined as a single time point[1].

Solubility Information

Solubility	DMSO: 5 mg/mL (15.71 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1412 mL	15.706 mL	31.412 mL
5 mM	0.6282 mL	3.1412 mL	6.2824 mL
10 mM	0.3141 mL	1.5706 mL	3.1412 mL
50 mM	0.0628 mL	0.3141 mL	0.6282 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

Sivaprakasam P, et al. Discovery of new acylaminopyridines as GSK-3 inhibitors by a structure guided in-depth exploration of chemical space around a pyrrolopyridinone core. Bioorg Med Chem Lett. 2015 May 1;25(9):1856-63.