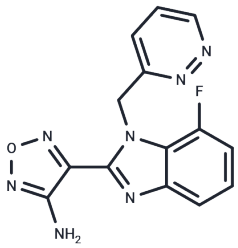
Data Sheet (Cat.No.T86109)

TargetMol

CVN293

Chemical Properties



CAS No. : 2815296-08-1

Formula: C14H10FN7O

Molecular Weight: 311.27

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	CVN293 is a selective inhibitor of the potassium channel KCNK13, with the advantages of brain permeability and oral bioavailability. It inhibits the production of the pro-inflammatory cytokine IL-1β induced by NLRP3 in microglia and can be used for research into neurodegenerative diseases.
Targets(IC50)	NOD-like Receptor (NLR),NOD,IL Receptor,Potassium Channel
In vitro	**Method**: CVN293 was administered intravenously and orally to male Sprague-Dawley rats, dogs, and cynomolgus monkeys. Blood samples were collected to measure plasma drug concentrations and calculate key pharmacokinetic parameters. **Result**: CVN293 exhibited distinct pharmacokinetic profiles in rats, dogs, and cynomolgus monkeys, with oral bioavailability of 87%, 41%, and 24%, respectively. The half-life ranged from 0.5 to 2.6 hours, and clearance and volume of distribution varied among species, reflecting interspecies metabolic differences. [1]
In vivo	**Method**: Mouse microglial cells were treated with different concentrations of CVN293 (0.05, 0.5, and 5 μM), followed by lipopolysaccharide (LPS) stimulation to induce inflammation and activate the NLRP3 inflammasome. **Result**: CVN293 exhibited a concentration-dependent inhibitory effect on IL-1β secretion mediated by the NLRP3 inflammasome in mouse microglial cells at concentrations of 0.05, 0.5, and 5 μM. [1]

Solubility Information

Solubility	DMSO: 4 mg/mL (12.85 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2126 mL	16.0632 mL	32.1264 mL
5 mM	0.6425 mL	3.2126 mL	6.4253 mL
10 mM	0.3213 mL	1.6063 mL	3.2126 mL
50 mM	0.0643 mL	0.3213 mL	0.6425 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

Roland W. Bürli, et al.Discovery of CVN293, a Brain Permeable KCNK13 (THIK-1) Inhibitor Suitable for Clinical Assessment. ACS Med. Chem. Lett. 2024.