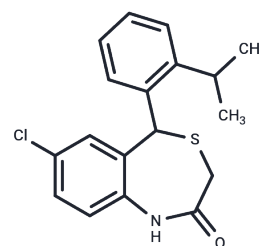


ITH-12575

Chemical Properties

CAS No. : 1802013-08-6
 Formula: C₁₈H₁₈ClNOS
 Molecular Weight: 331.86
 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	ITH-12575 is an inhibitor of the mitochondrial Na ⁺ /Ca ²⁺ exchanger (mNCX) that modulates mitochondrial calcium homeostasis, and at low micromolar concentrations ITH-12575 reduces Ca ²⁺ influx through CALHM1 channels, supporting its use in studies of mitochondrial signaling, neuronal excitability, calcium-dependent metabolism, and neurodegenerative disease mechanisms.
Targets(IC50)	Calcium Channel
In vitro	In models utilizing SH-SY5Y neuroblastoma cells and bovine chromaffin cells, ITH-12575 effectively mitigated cytotoxicity induced by Veratridine and high concentrations of potassium (K ⁺). The compound prevented the rapid efflux of Ca ²⁺ from mitochondria during depolarization, thereby dampening toxic cytosolic Ca ²⁺ spikes and preventing cell death [1].

Solubility Information

Solubility	DMSO: 40 mg/mL (120.53 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0133 mL	15.0666 mL	30.1332 mL
5 mM	0.6027 mL	3.0133 mL	6.0266 mL
10 mM	0.3013 mL	1.5067 mL	3.0133 mL
50 mM	0.0603 mL	0.3013 mL	0.6027 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

Moreno-Ortega AJ, et al. Benzothiazepine CGP37157 and its 2'-isopropyl analogue modulate Ca^{2+} entry through CALHM1. *Neuropharmacology*. 2015 Aug;95:503-10.

Martínez-Sanz FJ, et al. Neuroprotective profile of pyridothiazepines with blocking activity of the mitochondrial Na⁽⁺⁾/Ca⁽²⁺⁾ exchanger. *Eur J Med Chem*. 2016 Feb 15;109:114-23.

Martínez-Sanz FJ, et al. Benzothiazepine CGP37157 Analogues Exert Cytoprotection in Various in Vitro Models of Neurodegeneration. *ACS Chem Neurosci*. 2015 Sep 16;6(9):1626-36.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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