

FSC231

Chemical Properties

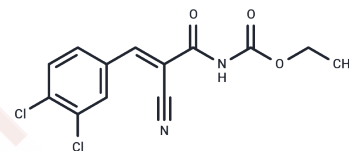
CAS No. : 1215849-96-9

Formula: C₁₃H₁₀Cl₂N₂O₃

Molecular Weight: 313.14

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	FSC231 is a protein kinase C α -interacting protein 1 (PICK1) inhibitor with analgesic activity, alleviating paclitaxel-induced neuropathic pain by inhibiting PICK1 and modulating related factors, activating GSK-3 β and ERK1/2.
Targets(IC50)	Others,iGluR
In vitro	FSC231 (50 μ M) treatment inhibits COS7 cells and blocks the interaction between GluR2 and PICK1 in cells [2]. Methods: FSC231 (50 μ M) was used to treat CA1 neurons in acute slices to observe its effect on LTP expression in neurons. Results: FSC231 can significantly reduce LTP expression. [2]
In vivo	Methods: The expression level of PICK1 in rat dorsal root ganglia (DRG) was altered by vector plasmids, and the effect of PICK1 on paclitaxel (PTL)-induced neuropathic pain in rats was observed in combination with FSC231 (78.40 μ g/kg, intraperitoneal injection). The possible molecular mechanisms were explored by quantitative real-time polymerase chain reaction (qRT-PCR), Western Blot and co-immunoprecipitation (Co-IP) techniques. Results: PTL treatment significantly reduced the mechanical withdrawal threshold (MWT) and thermal withdrawal latency (TWL) of rats, promoted DRG inflammation and the release of substance P (SP), stimulated PICK1 expression, reduced the level of α -amino-3-hydroxy-5-methyl-4-isoxazole-propionic acid receptor 2 (AMPA, GluA2), and increased the phosphorylation of rat glycogen synthase kinase-3 β (GSK-3 β) and extracellular regulated protein kinase 1/2 (ERK1/2), while FSC231 treatment could alleviate the above effects induced by PTL and alleviate the effects of PTL-induced neuropathic pain in rats. In addition, PICK1 overexpression could counteract the decreased PICK1 level, increased GluA2 level, and decreased phosphorylation of GSK-3 β and ERK1/2 caused by FSC231 treatment. The results of Co-IP confirmed the interaction between PICK1 and GluA2. Both FSC231 treatment and PICK1 silencing improved PTL-induced MWT reduction, TWL shortening, inflammation, SP release, and related gene expression changes, with cumulative effects.[1]

Solubility Information

A DRUG SCREENING EXPERT

Solubility	DMSO: 40 mg/mL (127.74 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (6.39 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1935 mL	15.9673 mL	31.9346 mL
5 mM	0.6387 mL	3.1935 mL	6.3869 mL
10 mM	0.3193 mL	1.5967 mL	3.1935 mL
50 mM	0.0639 mL	0.3193 mL	0.6387 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

Zhang X, et al. FSC231 alleviates paclitaxel-induced neuralgia by inhibiting the interactions between PICK1 and GluA2 and activates GSK-3 β and ERK1/2. *Brain Behav.* 2021 Nov;11(11):e2380.

Thorsen TS, et al. Identification of a small-molecule inhibitor of the PICK1 PDZ domain that inhibits hippocampal LTP and LTD. *Proc Natl Acad Sci U S A.* 2010 Jan 5;107(1):413-8.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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