

SK609 HCl

Chemical Properties

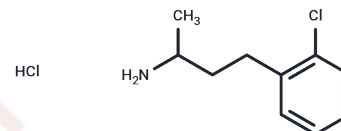
CAS No. : 1092797-77-7

Formula: C₁₀H₁₅Cl₂N

Molecular Weight: 220.14

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	SK609 HCl (SK609 hydrochloride) is a dopamine D3 receptor (D3R) selective agonist that inhibits norepinephrine transporter proteins and can be used to study Parkinson's disease and cognitive disorders.
Targets(IC50)	Norepinephrine, Dopamine Receptor
In vitro	SK609 activated Gi/o proteins and downstream ERK1/2 signaling, but had no effect on D2R/ERK1/2. The EC ₅₀ values of SK609 for [³⁵ S]GTPγS binding, ERK1/2 phosphorylation, and β-trap proteins were 1.1±0.2 μM, 50.2±5.9 nM, and 14.4±2.7 μM, respectively; the EC ₅₀ value of SK609 at D3R was 1109±273 nM in a competitive inhibition affinity assay [1]. In the competitive inhibition affinity assay of SK609 against D3R, the EC ₅₀ value of SK609 at D3R was 1109±273 nM [1].
In vivo	Safety toxicology studies in rats have shown that the maximum tolerated dose of SK609 is 30 mg/kg, and all doses used in this study were at SK609 [1]; in a PK study in Crab Monkeys, oral administration of SK609 (P.O.; 0.5, 2, and 4 mg/kg) was associated with mean C _{max} values at 4.1, 6.4, and 5.0 hours post-dose (T _{max}) were 13.7, 69.3, and 218 ng/mL, respectively, with corresponding AUC (0-t) values of 171, 904, and 2938 h·ng/mL; the mean terminal half-life of SK609 in plasma after intravenous administration (2 mg /kg) was 7.9 h. SK609 (i.p.; 2, 4, 6, 8, 10, and 20 mg/kg) was shown to be significant in a rat model of Parkinsonism. Parkinson's model significantly improved and normalized bilateral asymmetry in hemiplegic rats [3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.5426 mL	22.7128 mL	45.4256 mL
5 mM	0.9085 mL	4.5426 mL	9.0851 mL
10 mM	0.4543 mL	2.2713 mL	4.5426 mL
50 mM	0.0909 mL	0.4543 mL	0.9085 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

Xu W, Wang X, et al. Functional Characterization of a Novel Series of Biased Signaling Dopamine D3 Receptor Agonists. ACS Chem Neurosci. 2017 Mar 15;8(3):486-500.

Simms SL, et al. In vivo characterization of a novel dopamine D3 receptor agonist to treat motor symptoms of Parkinson's disease. Neuropharmacology. 2016 Jan;100:106-15.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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