

OPC-14523 dihydrochloride

Chemical Properties

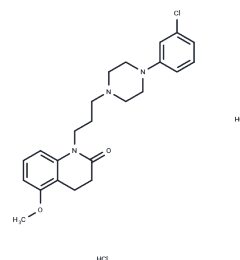
CAS No. :

Formula: C₂₃H₃₀Cl₃N₃O₂

Molecular Weight: 486.86

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	<p>OPC-14523 dihydrochloride is the dihydrochloride form of the free base OPC-14523. OPC-14523 dihydrochloride is an orally active dual agonist of sigma receptors and 5-HT_{1A} receptors that also inhibits the 5-HT transporter, with IC₅₀ values of 47/56 nM for sigma receptors σ1/2, 5-HT_{1A} receptor IC₅₀ = 2.3 nM, and 5-HT transporter IC₅₀ = 80 nM. OPC-14523 dihydrochloride exhibits antidepressant-like activity. OPC-14523 dihydrochloride can be used in neuroscience research, including studies on antidepressants and neuroprotection.</p>
Targets(IC50)	5-HT Receptor, Sigma receptor
In vivo	<p>Methods: To investigate the effects of OPC-14523 dihydrochloride on 5-HT biosynthesis, ICR mice were administered OPC-14523 dihydrochloride orally (0.3–10 mg/kg). The mice were sacrificed 1 hour after dosing, and 5-HTP accumulation was measured by HPLC. Results: OPC-14523 dihydrochloride at doses \geq 3 mg/kg significantly inhibited 5-HT synthesis. [1]</p> <p>Methods: To investigate the antidepressant effects of OPC-14523 dihydrochloride, Wistar rats underwent a forced swimming test. Rats were administered OPC-14523 dihydrochloride orally for 1, 2, 4, and 7 consecutive days at doses of 1–100 mg/kg, with testing conducted 1 hour after the final dose. Results: The ED₅₀ for a single dose was 27 mg/kg; after 7 days, the ED₅₀ was 18 mg/kg. OPC-14523 dihydrochloride demonstrated significant antidepressant effects.[1]</p>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.054 mL	10.2699 mL	20.5398 mL
5 mM	0.4108 mL	2.054 mL	4.108 mL
10 mM	0.2054 mL	1.027 mL	2.054 mL
50 mM	0.0411 mL	0.2054 mL	0.4108 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

Tottori K, Miwa T, Uwahodo Y, et al. Antidepressant-like responses to the combined sigma and 5-HT_{1A} receptor agonist OPC-14523. *Neuropharmacology*. 2001;41(8):976-988.

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