

Seletracetam lithium bromide

Chemical Properties

CAS No. :	2024584-38-9
Formula:	C10H14BrF2LiN2O2
Molecular Weight:	319.07
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	Seletracetam (Ucb 44212) lithium bromide is a SV2A modulator, intended for epilepsy research. It is an analog of Levetiracetam, an antiepileptic agent.
Targets(IC50)	Others
In vitro	Seletracetam demonstrates a significantly higher affinity for the LEV-binding site, with a one-log-unit increase (pKi=7.1) compared to Levetiracetam (pKi=6.1). Additionally, in rat cortical neurons in vitro, Seletracetam lithium bromide effectively inhibits both high-voltage-activated calcium currents and the subsequent intracellular calcium increase. At concentrations ranging from 1 to 10 μ M, Seletracetam lithium bromide also markedly reduces the amplitude and repetitive firing of population spikes in rat hippocampal slices, an effect induced by a high potassium/low calcium concentration fluid (HKLCF).
In vivo	Seletracetam, administered via intraperitoneal injection as lithium bromide, has demonstrated significant efficacy in mitigating secondary generalized motor seizures in fully corneally-kindled mice, with an effective dose (ED50) of 0.31 mg/kg. In mice prone to audiogenic seizures, Seletracetam offers protection from clonic convulsions with an ED50 of 0.17 mg/kg. Further investigation reveals that doses ranging from 0.0074 mg/kg to 74 mg/kg enhance the generalized seizure threshold current, reduce the duration and severity of after-discharges, and display a considerably stronger effect than Levetiracetam. Studies conducted on female Wistar rats (200-220 g) that were amygdala-kindled showed that pre-seizure threshold determination administration of Seletracetam significantly elevates the generalized seizure threshold across all doses, demonstrating increases of 190% (0.0074 mg/kg), 302% (0.074 mg/kg), 429% (0.74 mg/kg), 433% (7.4 mg/kg), and 679% (74 mg/kg), indicative of its potent anticonvulsant properties.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1341 mL	15.6705 mL	31.3411 mL
5 mM	0.6268 mL	3.1341 mL	6.2682 mL
10 mM	0.3134 mL	1.5671 mL	3.1341 mL
50 mM	0.0627 mL	0.3134 mL	0.6268 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

Pollard JR, et al. Seletracetam, a small molecule SV2A modulator for the treatment of epilepsy. *Curr Opin Investig Drugs*. 2008 Jan;9(1):101-7.

Martella G, et al. Seletracetam (ucb 44212) inhibits high-voltage-activated Ca²⁺ currents and intracellular Ca²⁺ increase in rat cortical neurons in vitro. *Epilepsia*. 2009 Apr;50(4):702-10.

Matagne A, et al. Profile of the new pyrrolidone derivative seletracetam (ucb 44212) in animal models of epilepsy. *Eur J Pharmacol*. 2009;614(1-3):30-37.

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