
Product Data Sheet

Product Name: Fluoroethylnormemantine hydrochloride

Cat. No.: GC69119

Chemical Properties

Cas. No. 1639210-25-5

Formula $C_{12}H_{21}ClFN$

M.Wt 233.75

Solubility DMSO : ≥ 100 mg/mL (427.81 mM)

Storage Store at $-20^{\circ}C$, away from moisture

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Background

Fluoroethylnormemantine hydrochloride, a derivative of Memantine, is an antagonist of the **N-methyl-D-aspartate (NMDA) receptor**. [^{18}F]-Fluoroethylnormemantine hydrochloride can be used as a positron emission tomography (PET) tracer. Fluoroethylnormemantine hydrochloride exhibits anti-amnesic, neuroprotective, antidepressant-like and fear-attenuating effects^{[1][2][3]}.

Fluoroethylnormemantine (0.1-10 mg/kg; a single i.p.) shows anti-amnesic effects on $A\beta_{25-35}$ -induced learning impairments in mice^[1].

Fluoroethylnormemantine (0.1-10 mg/kg; i.p. once daily for 7 days) attenuates $A\beta_{25-35}$ -induced behavioral deficits, neuroinflammation, oxidative stress, apoptosis, and cell loss in mice^[1].

Fluoroethylnormemantine (1-20 mg/kg; a single injection) decreases behavioral despair in the forced swim test (FST) and reduces fear behavior in the cued fear conditioning (FC) and extinction training in rats^[2].

Caution: Product has not been fully validated for medical applications. For research use only.

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Animal Model: Male Swiss CD-1 mice (7-9 weeks) were injected with A β ₂₅₋₃₅^[1]

Dosage: 0.1, 0.3, 1, 3, 10 mg/kg

Administration: I.p. 30 minutes before the behavioral tests

Result: Attenuated A β 25-35-induced spontaneous alternation deficit, passive avoidance deficit, and novel object exploration deficit.

[1]. Couly S, et, al. Anti-Amnesic and Neuroprotective Effects of Fluoroetlnormemantine in a Pharmacological Mouse Model of Alzheimer's Disease. *Int J Neuropsychopharmacol.* 2021 Feb 15;24(2):142-157.

[2]. Chen BK, et, al. Fluoroetlnormemantine, a novel derivative of memantine, facilitates extinction learning without sensorimotor deficits. *Int J Neuropsychopharmacol.* 2021 Feb 25;pyab007.

[3]. Chen BK, et, al. Fluoroetlnormemantine, a novel NMDA receptor antagonist, for the prevention and treatment of stress-induced maladaptive behavior. *Biological Psychiatry.* 2021 May 9.

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