# Fluoroethylnormemantine hydrochloride

**Cat. No.:** HY-139048A

**CAS No.:** 1639210-25-5

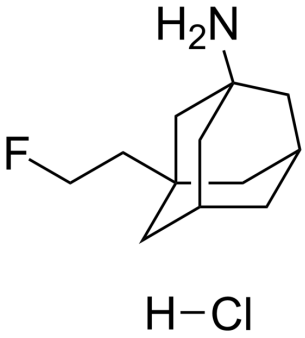
**Molecular Formula:** $C_{12}H_{21}ClFN$

**Molecular Weight:** 233.75

**Target:** iGluR

**Pathway:** Membrane Transporter/Ion Channel; Neuronal Signaling

**Storage:** -20°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 100 mg/mL (427.81 mM)
* "≥" means soluble, but saturation unknown.

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 4.2781 mL | 21.3904 mL | 42.7808 mL |
| 5 mM | 0.8556 mL | 4.2781 mL | 8.5561 mL |
| 10 mM | 0.4278 mL | 2.1390 mL | 4.2781 mL |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description**

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].

**$IC_{50}$ & Target**

NMDA receptor[1]

**In Vivo**

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

Fluoroethylnormemantine (0.1-10 mg/kg; i.p. once daily for 7 days) attenuates Aβ $_{25-35}$-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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| Animal Model: | Male Swiss CD-1 mice (7-9 weeks) were injected with $A\beta_{25-35}$[1] |
| Dosage: | 0.1, 0.3, 1, 3, 10 mg/kg |
| Administration: | I.p. 30 minutes before the behavioral tests |
| Result: | Attenuated $A\beta_{25-35}$-induced spontaneous alternation deficit, passive avoidance deficit, and novel object exploration deficit. |

## REFERENCES


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

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

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





Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA