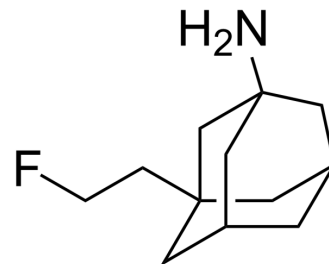


Fluoroethylnormemantine

| | | |
|---------------------------|--|----------------|
| Cat. No.: | HY-139048 | |
| CAS No.: | 1639210-26-6 | |
| Molecular Formula: | C ₁₂ H ₂₀ FN | |
| Molecular Weight: | 197.29 | |
| Target: | iGluR | |
| Pathway: | Membrane Transporter/Ion Channel; Neuronal Signaling | |
| Storage: | Pure form | -20°C 3 years |
| | In solvent | -80°C 6 months |
| | | -20°C 1 month |



SOLVENT & SOLUBILITY

| | | | | | | |
|---|--|----------------------|-------------|-------------|-------------|--------------|
| In Vitro | DMSO : 100 mg/mL (506.87 mM; Need ultrasonic) | | | | | |
| | Preparing Stock Solutions | Solvent | Mass | 1 mg | 5 mg | 10 mg |
| | | Concentration | | | | |
| | | 1 mM | | 5.0687 mL | 25.3434 mL | 50.6868 mL |
| | | 5 mM | | 1.0137 mL | 5.0687 mL | 10.1374 mL |
| | 10 mM | | 0.5069 mL | 2.5343 mL | 5.0687 mL | |
| Please refer to the solubility information to select the appropriate solvent. | | | | | | |
| In Vivo | <ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: 2.5 mg/mL (12.67 mM); Clear solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (12.67 mM); Clear solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: 2.5 mg/mL (12.67 mM); Clear solution; Need ultrasonic | | | | | |

BIOLOGICAL ACTIVITY

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|-------------------------------------|--|
| Description | Fluoroethylnormemantine, a derivative of Memantine, is an antagonist of the N-methyl-D-aspartate (NMDA) receptor. [¹⁸ F]-Fluoroethylnormemantine can be used as a positron emission tomography (PET) tracer. Fluoroethylnormemantine exhibits anti-amnesic, neuroprotective, antidepressant-like and fear-attenuating effects ^{[1][2][3]} . |
| IC₅₀ & 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 A β 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 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. |

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.

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

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