Pramiracetam

Cat. No.: HY-17455

CAS No.: 68497-62-1

Molecular Formula: $C_{14}H_{27}N_3O_2$

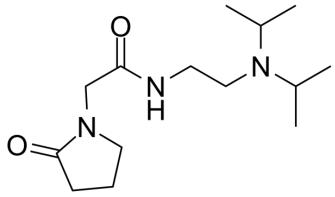
Molecular Weight: 269.38

Target: Prolyl Endopeptidase (PREP)

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (371.22 mM)

H_2O : ≥ 100 mg/mL (371.22 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7122 mL	18.5611 mL	37.1223 mL
5 mM	0.7424 mL	3.7122 mL	7.4245 mL
10 mM	0.3712 mL	1.8561 mL	3.7122 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 12.5 mg/mL (46.40 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.28 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pramiracetam (CI-879 free base) is a PREP (prolyl endopeptidase) inhibitor. Pramiracetam improves cognitive impairment caused by traumatic brain injury. Pramiracetam can be used in the study of neurodegenerative diseases[1][2].

In Vivo	Pramiracetam (7.5, 15 mg/kg intraperitoneally injected for 7 weeks) enhances certain aspects of spatial learning and memory in rats[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Long Evans hooded rats (250-300 g)[1]
Dosage:	7.5, 15 mg/kg
Administration:	i.p.
Result:	Improved performance in the reference memory component of the task, but did not significantly affect the working memory component.

REFERENCES

[1]. Murray CL, et al. The effect of pramiracetam (CI-879) on the acquisition of a radial arm maze task. Psychopharmacology (Berl). 1986;89(3):378-81.

[2]. Yoshimoto T, et al. Specific inhibitors for prolyl endopeptidase and their anti-amnesic effect. J Pharmacobiodyn. 1987 Dec;10(12):730-5.

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

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