

Nebracetam hydrochloride

Chemical Properties

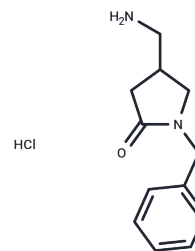
CAS No. : 1177279-49-0

Formula: C₁₂H₁₇ClN₂O

Molecular Weight: 240.729

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Nebracetam hydrochloride (WEB 1881 FU hydrochloride) is an agonist nootropic M1-muscarinic. Nebracetam hydrochloride induces a rise of intracellular Ca ²⁺ concentration. Nebracetam hydrochloride exhibits an EC ₅₀ of 1.59 mM for elevating [Ca ²⁺] _i .
Targets(IC ₅₀)	AChR
In vitro	Nebracetam involves not only cholinergic mechanisms but also involves limbic and hippocampal noradrenergic mechanisms.
Animal Research	Nebracetam (WEB 1881 FU), a new nootropic candidate, was able to correct this scopolamine-induced disruption of spatial cognition at the dose of 10 mg/kg, p.o in male Wistar rats weighing 200-250 g [2].

Solubility Information

Solubility	DMSO: 99 mg/mL (411.25 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (13.71 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.154 mL	20.7702 mL	41.5403 mL
5 mM	0.8308 mL	4.154 mL	8.3081 mL
10 mM	0.4154 mL	2.077 mL	4.154 mL
50 mM	0.0831 mL	0.4154 mL	0.8308 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

- Kitamura Y, et al. Effects of nebracetam (WEB 1881 FU), a novel nootropic, as a M1-muscarinic agonist. *Jpn J Pharmacol.* 1991 Jan;55(1):177-80.
- Iwasaki K, et al. Effect of nebracetam on the disruption of spatial cognition in rats. *Jpn J Pharmacol.* 1992 Feb;58(2):117-26.

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