Data Sheet (Cat.No.T28531)

TargetMol

Facinicline hydrochloride

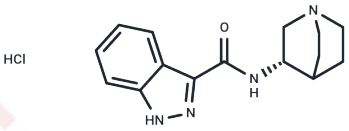
Chemical Properties

CAS No. : 677305-02-1

Formula: C15H19ClN4O

Molecular Weight: 306.79

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	Facinicline hydrochloride (RG3487) is both a novel nicotinic alpha-7 receptor (alpha7nAChR) partial agonist (Ki = 6 nM) and an antagonist of 5-HT3(Ki = 1.2 nM). Facinicline hydrochloride improves cognition and sensorimotor gating in rodents.
Targets(IC50)	5-HT Receptor,AChR
In vitro	Facinicline hydrochloride exhibits antagonist properties at the serotonin 3 receptor in oocytes(IC50 = 2.8 μM) and N1E-115 cells(IC50 = 32.7 μM)[2].Facinicline hydrochloride activates human α7 nAChRs in oocytes(EC50 = 0.8 μM) and QM7 cells(EC50 = 7.7 μM)[2].
In vivo	In Male Sprague-Dawley rats, Facinicline hydrochloride (0.1-10 mg/kg p.o.) selectively enhances object recognition memory[1]. Facinicline hydrochloride improves object recognition memory in rats after acute(1.0 mg/kg p.o.) or repeated (10 day) administration at brain and plasma concentrations in the low-nanomolar range[2].

Solubility Information

Solubility	H2O: 100 mg/mL (325.96 mM),Sonication is recommended. DMSO: 125 mg/mL (407.44 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: 5 mg/mL (16.3 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2596 mL	16.2978 mL	32.5956 mL
5 mM	0.6519 mL	3.2596 mL	6.5191 mL
10 mM	0.326 mL	1.6298 mL	3.2596 mL
50 mM	0.0652 mL	0.326 mL	0.6519 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

Boess F, et al. Use of early phenotypic in vivo markers to assess human relevance of an unusual rodent non-genotoxic carcinogen in vitro. Toxicology. 2017 Mar 15;379:48-61.
Tanya L Wallace, et al. RG3487, a Novel Nicotinic α7 Receptor Partial Agonist, Improves Cognition and Sensorimotor Gating in Rodents. J Pharmacol Exp Ther. 2011 Jan;336(1):242-53.
Hashimoto K. Targeting of α7 Nicotinic Acetylcholine Receptors in the Treatment of Schizophrenia and the Use of Auditory Sensory Gating as a Translational Biomarker. Curr Pharm Des. 2015;21(26):3797-806. Review.
Hao Y, Tang J, Wang K. Development of Automated Patch Clamp Assay for Evaluation of α7 Nicotinic Acetylcholine Receptor Agonists in Automated QPatch-16. Assay Drug Dev Technol. 2015 Apr;13(3):174-84.