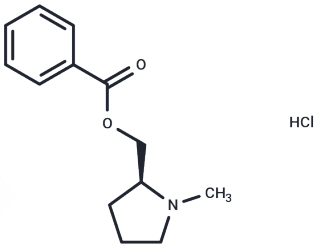
Data Sheet (Cat.No.T37094)

TargetMol

(S)-UFR2709 hydrochloride

Chemical Properties



CAS No. : 2934318-93-9

Formula: C13H18ClNO2

Molecular Weight: 255.74

Storage: Store at low temperature
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	(S)-UFR2709 (hydrochloride) is a competitive nAChR antagonist with higher affinity for α4β2 nAChRs than for α7 nAChRs. It decreases anxiety and reduces ethanol consumption and preference in alcohol-preferring rats. As an anxiolytic agent, (S)-UFR2709 (hydrochloride) can be used for the study of nicotine addiction[1][2].
Targets(IC50)	AChR
In vitro	Brain nicotinic acetylcholine receptors (nAChRs), a diverse group of pentameric acetylcholine-gated cation channels, serve as a molecular target for alcohol abuse and dependence treatment[1].
In vivo	(S)-UFR2709 (hydrochloride) (50-100 μg/ml) administered for 3 minutes and then held for 5 minutes significantly reduces bottom dwelling time in the Novel Tank Test (NTT), showing a dose-dependent decrease to 52.9 and 87.0 seconds for 50 and 100 μg/ml, respectively [2]. This compound also diminishes nicotine-evoked mRNA expression of the α4 nACh receptor subunit in adult zebrafish brains, with a lesser effect at both concentrations [2]. Additionally, intraperitoneal injection at 1-10 mg/kg daily for 17 days in high-alcohol-drinking UChB rats significantly decreases ethanol consumption and preference, while increasing water consumption dose-dependently, with 2.5 mg/kg being the most effective, resulting in a 56% reduction in alcohol intake, without impacting weight or locomotor activity [1].

Solubility Information

Solubility	DMSO: 50 mg/mL (195.51 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: 2 mg/mL (7.82 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	3.9102 mL	19.5511 mL	39.1022 mL
5 mM	0.782 mL	3.9102 mL	7.8204 mL
10 mM	0.391 mL	1.9551 mL	3.9102 mL
50 mM	0.0782 mL	0.391 mL	0.782 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

Gabriel Quiroz, et al. UFR2709, a Nicotinic Acetylcholine Receptor Antagonist, Decreases Ethanol Intake in Alcohol-Preferring Rats. Front Pharmacol. 2019 Dec 3;10:1429.
Franco Viscarra, et al. Nicotinic Antagonist UFR2709 Inhibits Nicotine Reward and Decreases Anxiety in Zebrafish. Molecules. 2020 Jun 30;25(13):2998.