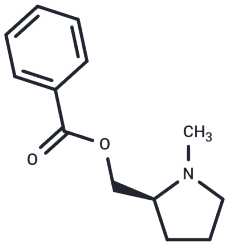
Data Sheet (Cat.No.T38903)

TargetMol

(S)-UFR2709

Chemical Properties



CAS No. : 1431628-22-6

Formula: C13H17NO2

Molecular Weight: 219.284

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	(S)-UFR2709 is a competitive antagonist of the nicotinic acetylcholine receptor (nAChR), showing greater affinity for α4β2 nAChRs over α7 nAChRs. It effectively reduces anxiety, ethanol consumption, and ethanol preference in alcohol-preferring rats, functions as an anxiolytic agent, and holds potential for investigating nicotine addiction.
Targets(IC50)	Others,AChR
In vitro	Brain nicotinic acetylcholine receptors (nAChRs) are a heterogeneous family of pentameric acetylcholine-gated cation channels, serving as molecular targets for treating alcohol abuse and dependence[1].
In vivo	(S)-UFR2709 at concentrations of 50-100 μg/ml, initially exposed for 3 minutes and then held for an additional 5 minutes, leads to a reduction in bottom dwelling in the NTT test, with the compound showing a significant, dose-dependent decrease in bottom dwelling times to 52.9 and 87.0 seconds at 50 and 100 μg/ml, respectively. Additionally, (S)-UFR2709 at the same concentrations reduces nicotine-evoked mRNA expression of the α4 nACh receptor subunit in adult zebrafish, though its effect on the α4 subunit is less pronounced. When administered intraperitoneally at dosages ranging from 1-10 mg/kg daily for 17 days in high-alcohol-drinking UChB rats, (S)-UFR2709 significantly lowers ethanol consumption and preference in a dose-dependent manner, with the most successful dosage being 2.5 mg/kg, which results in a 56% reduction in alcohol consumption. This treatment does not impact the weight or locomotor behavior of the rats.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.5604 mL	22.8019 mL	45.6038 mL
5 mM	0.9121 mL	4.5604 mL	9.1208 mL
10 mM	0.456 mL	2.2802 mL	4.5604 mL
50 mM	0.0912 mL	0.456 mL	0.9121 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.