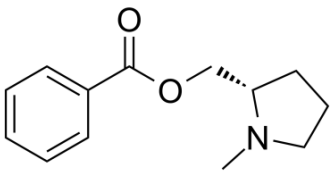
(S)-UFR2709

Cat. No.:	HY-137231A
CAS No.:	1431628-22-6
Molecular Formula:	$C_{13}H_{17}NO_2$
Molecular Weight:	219.28
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

(S)-UFR2709 is a competitive nAChR antagonist and displays higher affinity for $\alpha_4\beta_2$ nAChRs than for α_7 nAChRs. (S)-UFR2709 decreases anxiety and reduces ethanol consumption and ethanol preference in alcohol-preferring rats. (S)-UFR2709 acts as an anxiolytic agent and can be used for the study of nicotine addiction[1][2].

In Vitro

Brain nicotinic acetylcholine receptors (nAChRs) is a heterogeneous family of pentameric acetylcholine-gated cation channels, which is a molecular target for the treatment of alcohol abuse and dependence[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

(S)-UFR2709 (50-100 μg/ml; 3 min and then maintained for another 5 min in a holding tank before testing the swimming behaviour in the test tank for a period of 5 min) produces a decrease in the bottom dwelling for NTT test, and UFR2709 induces a significant and dose-dependent decrease in bottom dwelling time to 52.9 and 87.0 s, respectively at 50 and 100 μg/ml[2].

(S)-UFR2709 (50-100 μg/ml) decreases nicotine-evoked mRNA expression of α4 nACh receptor subunit, but UFR2709 has less effect on α4 nACh receptor subunit in the brain of adult zebrafish[2].

(S)-UFR2709 (intraperitoneal injection; 1-10 mg/kg; daily; 17 days) reduces ethanol consumption and ethanol preference and increased water consumption in a dose-dependent manner. The most effective dose of UFR2709 is 2.5 mg/kg, it induces a 56% reduction in alcohol consumption. (S)-UFR2709 does not affect the weight or locomotor activity of the rats[1].

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Animal Model:	High-alcohol-drinking UChB rats[1]
Dosage:	10 mg/kg, 5 mg/kg, 2.5 mg/kg, or 1 mg/kg
Administration:	Intraperitoneal injection; 1-10 mg/kg; daily; 17 days
Result:	Did not affect the weight or locomotor activity and reduced ethanol consumption and preference.

REFERENCES

[1]. Gabriel Quiroz, et al. UFR2709, a Nicotinic Acetylcholine Receptor Antagonist, Decreases Ethanol Intake in Alcohol-Preferring Rats. Front Pharmacol. 2019 Dec 3;10:1429.

[2]. Franco Viscarra, et al. Nicotinic Antagonist UFR2709 Inhibits Nicotine Reward and Decreases Anxiety in Zebrafish. Molecules. 2020 Jun 30;25(13):2998.

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