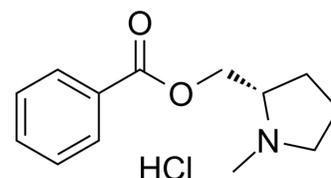


## (S)-UFR2709 hydrochloride

Cat. No.:	HY-137231B
CAS No.:	2934318-93-9
Molecular Formula:	C <sub>13</sub> H <sub>18</sub> ClNO <sub>2</sub>
Molecular Weight:	255.74
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	4°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 100 mg/mL (391.02 mM; Need ultrasonic)  
DMSO : 50 mg/mL (195.51 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.9102 mL	19.5511 mL	39.1022 mL
	5 mM	0.7820 mL	3.9102 mL	7.8204 mL
	10 mM	0.3910 mL	1.9551 mL	3.9102 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 50 mg/mL (195.51 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (9.78 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (9.78 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (9.78 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

(S)-UFR2709 (hydrochloride) is a competitive nAChR antagonist and displays higher affinity for α<sub>4</sub>β<sub>2</sub> nAChRs than for α<sub>7</sub> nAChRs. (S)-UFR2709 (hydrochloride) decreases anxiety and reduces ethanol consumption and ethanol preference in alcohol-preferring rats. (S)-UFR2709 (hydrochloride) acts as an anxiolytic agent and can be used for the study of nicotine addiction<sup>[1][2]</sup>.

#### 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<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

(S)-UFR2709 (hydrochloride) (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<sup>[2]</sup>.

(S)-UFR2709 (hydrochloride) (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<sup>[2]</sup>.

(S)-UFR2709 (hydrochloride) (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 (hydrochloride) does not affect the weight or locomotor activity of the rats<sup>[1]</sup>.

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

Animal Model:	High-alcohol-drinking UChB rats <sup>[1]</sup>
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.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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