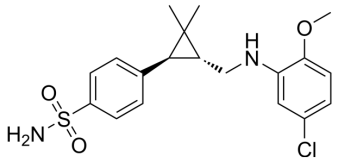
BNC375

Cat. No.:	HY-128575
CAS No.:	1557240-80-8
Molecular Formula:	$C_{19}H_{23}ClN_2O_3S$
Molecular Weight:	394.92
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (211.00 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5322 mL	12.6608 mL	25.3216 mL
	5 mM	0.5064 mL	2.5322 mL	5.0643 mL
	10 mM	0.2532 mL	1.2661 mL	2.5322 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.27 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

BNC375 is a potent, selective, and orally available type I positive allosteric modulator of α7 nAChRs with an EC_{50} of 1.9 μM. BNC375 exhibits good CNS-agent like properties and clinical candidate potential. [1].

In Vitro

BNC375 significantly potentiates the acetylcholine signal without changing the rapid receptor desensitization[1].

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

In Vivo

BNC375 (0.003-10.0 mg/kg, administered orally) exhibits the MED of 0.03 mg/kg, and achieves full reversal of the

Scopolamine-induced impairment at 1.0 mg/kg in mouse T-maze model. BNC375 exhibits the plasm half-life ($t_{1/2}$) of 1.2 h[1].

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

REFERENCES

[1]. Andrew J Harvey, et al. Discovery of BNC375, a Potent, Selective, and Orally Available Type I Positive Allosteric Modulator of α7 nAChRs. ACS Med Chem Lett. 2019 Mar 25;10(5):754-760.

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