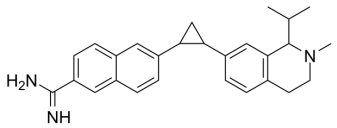
A-317567

Cat. No.:	HY-122135
CAS No.:	371217-32-2
Molecular Formula:	$C_{27}H_{31}N_3$
Molecular Weight:	397.56
Target:	Sodium Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (125.77 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5153 mL	12.5767 mL	25.1534 mL
	5 mM	0.5031 mL	2.5153 mL	5.0307 mL
	10 mM	0.2515 mL	1.2577 mL	2.5153 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 (5.23 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.23 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

A-317567 is a potent acid-sensing ion channel 3 (ASIC-3) inhibitor with an IC_{50} of 1.025 μM. A-317567 has antidepressant and antinociception effects[1][2].

IC_{50} & Target

IC50: 1.025 μM (Acid-sensing ion channel 3 (ASIC-3))[1]

In Vitro

In acutely dissociated adult rat dorsal root ganglion (DRG) neurons, A-317567 produces concentration-dependent inhibition of all pH 4.5-evoked ASIC currents with an IC_{50} ranging between 2 and 30 μM. A-317567 equipotently blocks the sustained phase of ASIC3-like current, a biphasic current akin to cloned ASIC3, which is predominant in DRG[2].

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

In Vivo

A-317567 (1-100 μmol/kg; i.p; once) is fully analgesic effects in the CFA model (ED_{50} of 17 μmol/kg). There is no significant

effect of A-317567 on the withdrawal latency of the contralateral paw under these conditions[2].

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Animal Model:	Adult male Sprague-Dawley rats (230-350 g) injected with Complete Freund's Adjuvant-(CFA-) induced thermal hyperalgesia[2].
Dosage:	1-100 μmol/kg
Administration:	i.p; once
Result:	Showed dose-dependent analgesic effects.

REFERENCES

[1]. Kuduk SD, et al. Synthesis, structure-activity relationship, and pharmacological profile of analogs of the ASIC-3 inhibitor A-317567. ACS Chem Neurosci. 2010 Jan 20;1(1):19-24.

[2]. Dubé GR, et al. Electrophysiological and in vivo characterization of A-317567, a novel blocker of acid sensing ion channels. Pain. 2005 Sep;117(1-2):88-96.

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