Ropivacaine-d_7

Cat. No.: HY-B0563S1

CAS No.: 684647-62-9

Molecular Formula: $C_{17}H_{19}D_7N_2O$

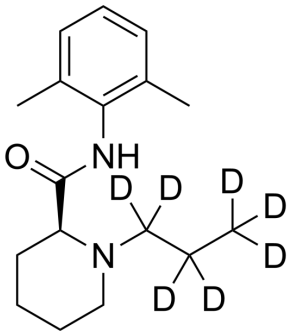
Molecular Weight: 281.44

Target: Potassium Channel; Sodium Channel; Isotope-Labeled Compounds

Pathway: Membrane Transporter/Ion Channel; Others

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 : 100 mg/mL (355.32 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5532 mL	17.7658 mL	35.5316 mL
	5 mM	0.7106 mL	3.5532 mL	7.1063 mL
	10 mM	0.3553 mL	1.7766 mL	3.5532 mL

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

BIOLOGICAL ACTIVITY

Description

Ropivacaine-d_7 is deuterium labeled Ropivacaine. Ropivacain is a potent sodium channel blocker. Ropivacain blocks impulse conduction via reversible inhibition of sodium ion influx in nerve fibrese[1][2]. Ropivacaine is also an inhibitor of K2P (two-pore domain potassium channel) TREK-1 with an IC50 of 402.7 μM in COS-7 cell's membrane[3]. Ropivacaine is used for the research of neuropathic pain management[1].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Dene Simpson, et al. Ropivacaine: a review of its use in regional anaesthesia and acute pain management. Drugs. 2005;65(18):2675-717.

[3]. Hye Won Shin, et al. The inhibitory effects of bupivacaine, levobupivacaine, and ropivacaine on K2P (two-pore domain potassium) channel TREK-1. J Anesth

[4]. Li TF, et al. Epidural sustained release ropivacaine prolongs anti-allodynia and anti-hyperalgesia in developing and established neuropathic pain. PLoS One. 2015 Jan 24;10(1):e0117321.

[5]. Milan Patel, et al. Ropivacaine Inhibits Pressure-Induced Lung Endothelial Hyperpermeability in Models of Acute Hypertension. Life Sci. 2019 Apr 1;222:22-28.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA