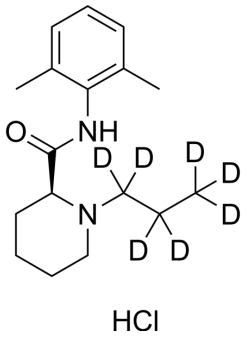
Ropivacaine-d_7 hydrochloride

Cat. No.:	HY-B0563BS
CAS No.:	1217667-10-1
Molecular Formula:	$C_{17}H_{20}D_7ClN_2O$
Molecular Weight:	317.91
Target:	Isotope-Labeled Compounds
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Ropivacaine-d_7 hydrochloride is a deuterium labeled Ropivacaine (hydrochloride) (HY-B0563B)[1]. Ropivacaine hydrochloride is a potent?sodium channel?blocker and blocks impulse conduction via reversible inhibition of?sodium ion influx?in nerve fibrese[2][3]. Ropivacaine is also an inhibitor of K_{2P} (two-pore domain potassium channel) TREK-1 with an IC_{50} of 402.7 μM in COS-7 cell's membrane[4]. Ropivacaine is widely used for neuropathic pain?management in vivo[2].
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 Feb;53(2):211-246.

[2]. 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.

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

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

[5]. Hye Won Shin, et al. The inhibitory effects of bupivacaine, levobupivacaine, and ropivacaine on K2P (two-pore domain potassium) channel TREK-1. J Anesth. 2014 Feb;28(1):81-6.

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