Mepivacaine hydrochloride

Cat. No.: HY-B0517A

CAS No.: 1722-62-9

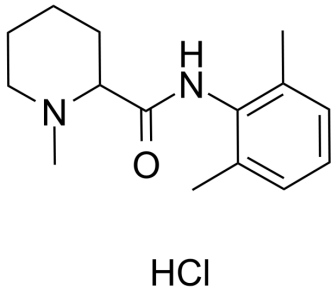
Molecular Formula: $C_{15}H_{23}ClN_2O$

Molecular Weight: 282.81

Target: Sodium Channel

Pathway: Membrane Transporter/Ion Channel

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (353.59 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5359 mL	17.6797 mL	35.3594 mL
	5 mM	0.7072 mL	3.5359 mL	7.0719 mL
	10 mM	0.3536 mL	1.7680 mL	3.5359 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (353.59 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Mepivacaine hydrochloride binds to specific voltage-gated sodium ion channels in neuronal cell membranes, which inhibits both sodium influx and membrane depolarization[1][2].

In Vitro

Mepivacaine hydrochloride binds to specific voltage-gated sodium ion channels in neuronal cell membranes, which inhibits both sodium influx and membrane depolarization. This leads to a blockage of nerve impulse initiation and conduction and results in a reversible loss of sensation. Compared to other local anesthetics, this agent has a more rapid onset and moderate duration of action[2].

Mepivacaine hydrochloride has a reasonably rapid onset (more rapid than that of procaine) and medium duration of action (shorter than that of procaine)[3].

Mepivacaine hydrochloride displays a preferential use-dependent block of Na(v)1.8, S(-)-bupivacaine displays a preference for TTXs Na(+) channels[4].

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

REFERENCES

[1]. Burm, A.G., et al., Pharmacokinetics of the enantiomers of mepivacaine after intravenous administration of the racemate in volunteers. Anesth Analg, 1997. 84(1): p. 85-9.

[2]. Leffler, A., J. Reckzeh, and C. Nau, Block of sensory neuronal Na+ channels by the secreolytic ambroxol is associated with an interaction with local anesthetic binding sites. Eur J Pharmacol, 2010. 630(1-3): p. 19-28.

[3]. Froehle M, et al. ECMO for Cardiac Rescue after Accidental Intravenous Mepivacaine Application. Case Rep Pediatr. 2012;2012:491692.

[4]. mepivacaine hydrochloride.

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