QX-222 chloride

Cat. No.: HY-101362

CAS No.: 5369-00-6

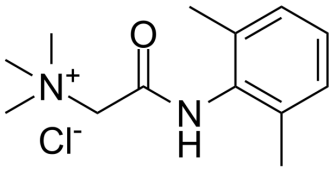
Molecular Formula: $C_{13}H_{21}ClN_2O$

Molecular Weight: 256.77

Target: Sodium Channel

Pathway: Membrane Transporter/Ion Channel

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (486.82 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.8945 mL	19.4727 mL	38.9454 mL
	5 mM	0.7789 mL	3.8945 mL	7.7891 mL
	10 mM	0.3895 mL	1.9473 mL	3.8945 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 (8.10 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.10 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.10 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

QX-222 chloride, a trimethyl analogue of Lignocaine (HY-B0185), is a potent Na^+ channel blocker[1][2][3].

In Vitro

Twelve minutes after external application of 500 μM QX222 chloride, μ1 IP-Loop to Heart Sequence (μ1-Y401C) results in a significant block compared with μ1-WT (WT, 14.2±1.6% block, n = 8; Y401C, 45.2±3.6% block, n = 9; P < 0.001)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

QX-222 (10 mg/kg; intravenous infusion 7 days) chloride reverses spinal nerve ligation (SNL)-induced thermal hypersensitivity and induced antinociception in sham-operated rats[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. A Sunami, et al. A critical residue for isoform difference in tetrodotoxin affinity is a molecular determinant of the external access path for local anesthetics in the cardiac sodium channel. Proc Natl Acad Sci U S A. 2000 Feb 29;97(5):2326-31.

[2]. Qingmin Chen, et al. Differential blockade of nerve injury-induced thermal and tactile hypersensitivity by systemically administered brain-penetrating and peripherally restricted local anesthetics. J Pain. 2004 Jun;5(5):281-9.

[3]. J A Flatman, et al. Reversibility of Ia EPSP investigated with intracellularly iontophoresed QX-222. J Neurophysiol. 1982 Aug;48(2):419-30.

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