QX-314 chloride

Cat. No.: HY-108505

CAS No.: 5369-03-9

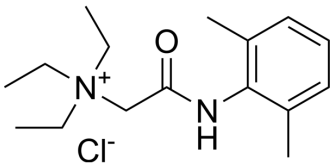
Molecular Formula: $C_{16}H_{27}ClN_2O$

Molecular Weight: 298.85

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 : 50 mg/mL (167.31 mM; Need ultrasonic)
DMSO : 14.29 mg/mL (47.82 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3462 mL	16.7308 mL	33.4616 mL
	5 mM	0.6692 mL	3.3462 mL	6.6923 mL
	10 mM	0.3346 mL	1.6731 mL	3.3462 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 (334.62 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.14 mg/mL (3.81 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.83 mg/mL (2.78 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.83 mg/mL (2.78 mM); Clear solution

BIOLOGICAL ACTIVITY

Description QX-314 chloride is a membrane-impermeable permanently charged sodium channel blocker[1].

IC_{50} & Target sodium channel[1]

In Vitro QX-314 chloride exerts biphasic effects on transient receptor potential vanilloid subtype 1 channels (TRPV1) in vitro[2].

?QX-314 chloride (1–60 mM) directly activates TRPV1 in a concentration-dependent manner[2].
?QX-314 chloride (10 mM) inhibits calcium currents in hippocampal CA1 pyramidal neurons intracellular, and the low-threshold (T-type) Ca^{2+} currents are on average < 45% of control amplitude[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Rivera-Acevedo RE, et al. The quaternary lidocaine derivative, QX-314, exerts biphasic effects on transient receptor potential vanilloid subtype 1 channels in vitro. Anesthesiology. 2011 Jun;114(6):1425-34.

[2]. Talbot MJ, et al. Intracellular QX-314 inhibits calcium currents in hippocampal CA1 pyramidal neurons. J Neurophysiol. 1996 Sep;76(3):2120-4.

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