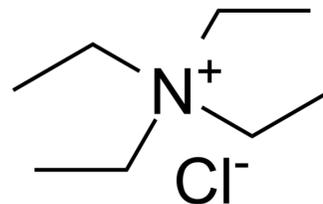


Tetraethylammonium chloride

Cat. No.:	HY-B1793
CAS No.:	56-34-8
Molecular Formula:	C ₈ H ₂₀ ClN
Molecular Weight:	165.7
Target:	Potassium 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

H₂O : ≥ 100 mg/mL (603.50 mM)
 DMSO : 100 mg/mL (603.50 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	6.0350 mL	30.1750 mL	60.3500 mL
5 mM	1.2070 mL	6.0350 mL	12.0700 mL		
10 mM	0.6035 mL	3.0175 mL	6.0350 mL		

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (603.50 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (15.09 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (15.09 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (15.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tetraethylammonium chloride is a non-selective potassium channel blocker. Tetraethylammonium chloride is a good substrate for organic cation transporter (OCTN1). Tetraethylammonium chloride antitumor properties^{[1][2]}.

In Vitro

Tetraethylammonium (0.2-60 mM; 24-72 hours; C6 and 9L glioma cells) treatment inhibits the proliferation of C6 and 9L cells in a dose- and time-dependent manner^[1].

Tetraethylammonium (40 mM; 24-72 hours; C6 and 9L glioma cells) treatment significantly increases apoptosis in cells^[1].
Tetraethylammonium (40 mM; 12-48 hours; C6 and 9L glioma cells) treatment significantly elevates Bax/Bcl-2 protein ratio in a time-dependent manner^[1].

The generation of intracellular ROS increased in C6 and 9L cells by the addition of 20 and 40 mM Tetraethylammonium^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay^[1]

Cell Line:	Rat C6 and 9L glioma cells
Concentration:	0.2 mM, 2 mM, 20 mM, 40 mM and 60 mM
Incubation Time:	24 hours, 48 hours and 72 hours
Result:	Inhibited the proliferation of C6 and 9L cells in a dose- and time-dependent manner.

Apoptosis Analysis^[1]

Cell Line:	Rat C6 and 9L glioma cells
Concentration:	40 mM
Incubation Time:	24 hours, 48 hours and 72 hours
Result:	Significantly increased apoptosis in cells.

Western Blot Analysis^[1]

Cell Line:	Rat C6 and 9L glioma cells
Concentration:	40 mM
Incubation Time:	12 hours, 24 hours, 48 hours
Result:	The expression of Bax was markedly increased, while that of Bcl-2 showed a decreasing trend 12, 24 and 48 h.

In Vivo

Tetraethylammonium (1 mM, 3 mM, and 5 mM) significantly increases the amplitude and frequency of contractility of colon and rectum from rats in longitudinal and circular direction. Tetraethylammonium at 5 mM and 15 mM concentrations shows no effect on histology of colon and rectum from rats that are administered locally with Tetraethylammonium into colon lumen from anus for 10 days^[2].

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

CUSTOMER VALIDATION

- PeerJ. 2023 May 25.
- SSRN. 2023 Jun 15.
- Biomed Res Int. 2021 May 15.

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REFERENCES

[1]. K B Yang, et al. Tetraethylammonium inhibits glioma cells via increasing production of intracellular reactive oxygen species. *Chemotherapy*. 2009;55(5):372-80.

[2]. Zhe Li, et al. Tetraethylammonium enhances the rectal and colonic motility in rats and human in vitro. *Naunyn Schmiedebergs Arch Pharmacol.* 2011 Aug;384(2):147-55.

Caution: Product has not been fully validated for medical applications. For research use only.

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