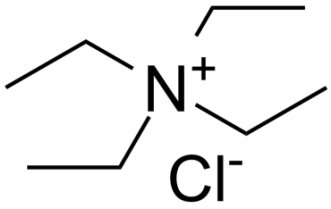
Tetraethylammonium chloride

Cat. No.:	HY-B1793
CAS No.:	56-34-8
Molecular Formula:	$C_8H_{20}ClN$
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)



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].

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].

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.

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