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产品名称: 苯扎氯铵

产品别名: **Benzalkonium chloride; Alkyldimethylbenzylammonium chloride**

生物活性:	
Description	Benzalkonium chloride is a potent anti-microbial agent, used as a preservative in eye drops.
In Vitro	Benzalkonium chloride (0.0001%-0.5%) results in a dose-dependent cytotoxicity in cells. Benzalkonium chloride also shows cytotoxicity against human keratinocytes, with 50% loss of viability of 4 μ M. Benzalkonium chloride shows different results in NHEK and NB1RGB cell cultures, and the ED50 of 3.9 and 62 μ M, respectively. The clinically used concentration (0.01% Benzalkonium chloride) significantly reduces cell viability, with only 14%-19% of nasal epithelial cells surviving the treatment[1].
In Vivo	Benzalkonium chloride (0.02%) causes no abnormalities in the nasal epithelium of the monkeys after light and electron microscopical examination. In 4-5 week-old SD rats, 0.01% and 0.1% Benzalkonium chloride induce a time-dependent increase in the thickness of the nasal respiratory epithelium[1].
Solvent&Solubility	In Vitro: DMSO : 50 mg/mL (Need ultrasonic) H₂O : $\geq$ 20 mg/mL * "$\geq$" means soluble, but saturation unknown. In Vivo: 请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液, 再依次添加助溶剂: ——为保证实验结果的可靠性, 澄清的储备液可以根据储存条件, 适当保存; 体内实验的工作液, 建议您现用现配, 当天使用; 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比; 如在配制过程中出现沉淀、析出现象, 可以通过加热和/或超声的方式助溶 1.请依序添加每种溶剂: 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline Solubility: $\geq$ 3.25 mg/mL (Infinity mM); Clear solution 此方案可获得 $\geq$ 3.25 mg/mL (Infinity mM, 饱和度未知) 的澄清溶液。 以 1 mL 工作液为例, 取 100 μL 32.5 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中, 混合均匀, 向上述体系中加入 50 μL Tween-80, 混合均匀; 然后继续加入 450 μL 生理盐水定容至 1 mL。 2.请依序添加每种溶剂: 10% DMSO→ 90% (20% SBE-β-CD in saline) Solubility: $\geq$ 3.25 mg/mL (Infinity mM); Clear solution 此方案可获得 $\geq$ 3.25 mg/mL (Infinity mM, 饱和度未知) 的澄清溶液。 以 1 mL 工作液为例, 取 100 μL 32.5 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水溶液中, 混合均匀。 3.请依序添加每种溶剂: 10% DMSO →90% corn oil Solubility: $\geq$ 3.25 mg/mL (Infinity mM); Clear solution 此方案可获得 $\geq$ 3.25 mg/mL (Infinity mM, 饱和度未知) 的澄清溶液, 此方案不适用于实验周期在半个月以上的实验。



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	以 1 mL 工作液为例, 取 100 μ L 32.5 mg/mL 的澄清 DMSO 储备液加到 900 μ L 玉米油中, 混合均匀。
References	[1]. Johnson NF. Pulmonary Toxicity of Benzalkonium Chloride. J Aerosol Med Pulm Drug Deliv. 2017 Jul 6.



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