



上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话: 021-61312973 传真: 021-55068248
网址: www.shyuanye.com
邮箱: shyysw@sina.com

产品名称: **Quinidine Hydrochloride**

产品别名: **Quinidine hydrochloride monohydrate** ; 奎尼丁盐酸盐一水合物

生物活性:					
Description	Quinidine hydrochloride monohydrate is an anti-arrythmic agent which is also a potent blocker of K ⁺ channel with an IC ₅₀ of 19.9 μM.				
IC ₅₀ & Target	IC50: 19.9 μM (K ⁺ channel)[1]				
In Vitro	Quinidine hydrochloride monohydrate blocks WT mSlo3 (K _{Ca} 5.1) channels with an IC ₅₀ of 19.9±1.41 μM and Hill slope of 1.15±0.15 (n=7). Again, the potency of inhibition by Quinidine hydrochloride monohydrate is higher for F304Y mSlo3 (IC ₅₀ of 2.42±0.60 μM, n=9, P<0.005; Hill slope of 0.98±0.12), but lower with R196Q mSlo3 (IC ₅₀ of 38.4±6.77 μM, n=5, P<0.001; Hill slope of 1.05±0.16). The inhibition of F304Y mSlo3 by Quinidine hydrochloride monohydrate is observed to have some time dependence[1].				
In Vivo	Direct application of Quinidine hydrochloride monohydrate on the sciatic nerve produces a dose-related decrease in amplitude at ascending somato-sensory evoked potential (SSEP) and descending compound muscle action potentials (CMAP) when comparing baseline with other time points, or when comparing the experimental left limb to the right contra-lateral glucose-treated limb. The latencies of SSEPs and CMAP potentials after Quinidine hydrochloride monohydrate applications are increased compare to baseline and the contralateral side[2].				
Solvent&Solubility	In Vitro: DMSO : 106.7 mg/mL (281.61 mM; Need ultrasonic and warming)				
	Preparing Stock Solutions	<div>Solvent / Mass / Concentration</div>	1 mg	5 mg	10 mg
		1 mM	2.6393 mL	13.1964 mL	26.3929 mL
		5 mM	0.5279 mL	2.6393 mL	5.2786 mL
		10 mM	0.2639 mL	1.3196 mL	2.6393 mL
	*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液。一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。 储备液的保存方式和期限：-80℃，6 months；-20℃，1 month。-80℃ 储存时，请在 6 个月内使用，-20℃ 储存时，请在 1 个月内使用。				
References	[1]. Wrighton DC, et al. Mechanism of inhibition of mouse Slo3 (KCa 5.1) potassium channels by quinine, quinidine and barium. Br J Pharmacol. 2015 Sep;172(17):4355-63. [2]. Cheng KI, et al. Application of quinidine on rat sciatic nerve decreases the amplitude and increases the latency of evoked responses. J Anesth. 2014 Aug;28(4):559-68.				
实验参考:					
Cell Assay	Mouse (m) Slo3 (K _{Ca} 5.1) channels or mutant forms are expressed in <i>Xenopus</i> oocytes and currents recorded with 2-electrode voltage-clamp. Gain-of-function mSlo3 mutations are used to explore the state-dependence of the inhibition. The interaction between Quinidine hydrochloride monohydrate and mSlo3 channels is modelled by <i>in silico</i> docking[1].				
	24 rats are randomly divided into three groups with eight rats in each group. Groups Q ₁ , Q ₃ , and Q ₅ receive Quinidine hydrochloride monohydrate 1, 3, and 5 μmol, respectively, in 5 % glucose 0.1				



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Animal Administration	<p>mL. The sciatic nerve is exposed by making an incision from the left sciatic notch to the distal thigh. The subcutaneous tissue is bluntly dissected to expose the biceps femoris. The sciatic nerve is freed from its investing fascia. The procedure is then repeated on the right side. The somato-sensory evoked potential (SSEP) and compound muscle action potentials (CMAP) are recorded at baseline, immediately after Quinidine hydrochloride monohydrate treatment, then every 15 min thereafter for 1 h, then every 30 min thereafter for 3 h. The animals are allowed to recover and then kept separately for 2 weeks. After performing behavioral examinations, electrophysiological examinations are performed with the animals under intra-peritoneal anesthesia[2].</p>
References	<p>[1]. Wrighton DC, et al. Mechanism of inhibition of mouse Slo3 (KCa 5.1) potassium channels by quinine, quinidine and barium. <i>Br J Pharmacol</i>. 2015 Sep;172(17):4355-63.</p> <p>[2]. Cheng KI, et al. Application of quinidine on rat sciatic nerve decreases the amplitude and increases the latency of evoked responses. <i>J Anesth</i>. 2014 Aug;28(4):559-68.</p>

源叶生物