

XE-991 dihydrochloride ab120089

24 References 2 图像

概述

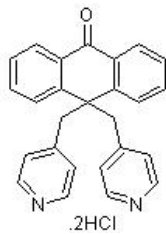
产品名称	XE-991 dihydrochloride
描述	Potent, selective KCNQ channel blocker; blocks M current
生物学描述	Potent and selective blocker of KCNQ voltage-gated potassium channels. Blocks M current. (IC ₅₀ values are 0.98 μM (M-current), 0.71 μM (KCNQ 2), 0.75 μM (KCNQX 1), >100 μM (Kv1.2) and >43 μM (Kv4.3). Potent pulmonary vasoconstrictor. Cognitive enhancer following oral administration <i>in vivo</i> .
纯度	> 99%

性能

化学名称 10,10-Bis(4-pyridinylmethyl)-9(10H)-anthracenone dihydrochloride

分子量 449.40

化学结构



分子式 C₂₆H₂₀N₂O.2HCl

CAS编号 122955-13-9

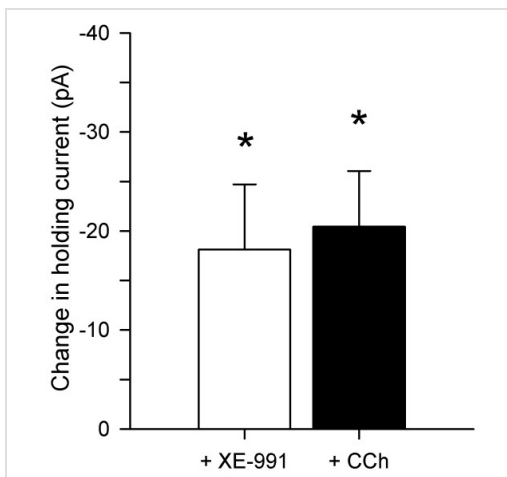
存放说明 Store at +4°C. Store under desiccating conditions. The product can be stored for up to 12 months.

溶解度概述 Soluble in water to 100 mM

处理 Wherever possible, you should prepare and use solutions on the same day. However, if you need to make up stock solutions in advance, we recommend that you store the solution as aliquots in tightly sealed vials at -20°C. Generally, these will be useable for up to one month. Before use, and prior to opening the vial we recommend that you allow your product to equilibrate to room temperature for at least 1 hour.

Need more advice on solubility, usage and handling? Please visit our [frequently asked questions \(FAQ\) page](#) for more details.

来源 Synthetic



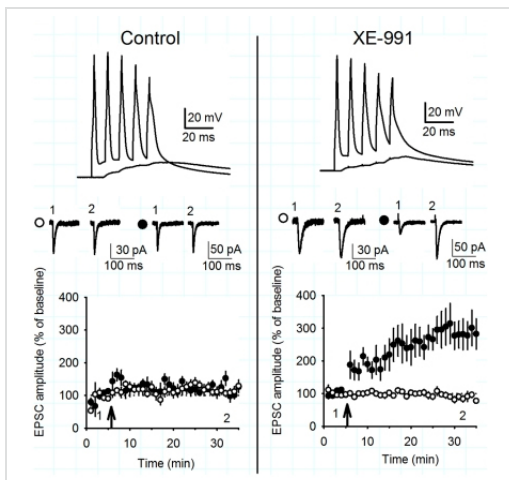
Functional Studies - XE-991 dihydrochloride
(ab120089)

Image from Glasgow SD et al., PLoS One.
2013;8(3):e58901. Fig 7(A).; doi:
10.1371/journal.pone.0058901.

To assess the effects of blockade of muscarine-dependent K⁺ current, I_M under voltage clamp conditions, and to determine if carbachol, CCh, acts through the blockade of an additional conductance other than I_M voltage ramps were performed in ACSF containing TTX (0.5 μ M), ZD7288 (50 μ M), prior to and during sequential addition of XE-991 (10 μ M) and CCh (50 μ M) ($n=9$).

Application of XE-991 in the presence of TTX and ZD7288 resulted in a significant increase in current required to hold neurons at -60 mV (-18.1 ± 6.6 pA; N-K: $p < 0.05$).

Bath application of XE-991 (10 μ M; white bar) resulted in an inward current in cells held at -60 mV indicating that the cells express I_M and the subsequent perfusion with CCh (50 μ M) resulted in an additional inward current, suggesting that CCh blocks a second K⁺ conductance (*: $p < 0.05$).



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Image from Petrovic MM et al., PLoS One. 2012;7(2):e30402. Fig 1(B,C); doi: 10.1371/journal.pone.0030402.

Left - Theta burst stimulation (TBP) does not induce long-term potentiation (LTP) under control conditions. Coincident TBP of subthreshold excitatory post-synaptic potentials (EPSPs) and somatic action potentials induced no change in EPSC amplitude in the test (black circles) or control (white circles) pathways. The arrow indicates the timing of the TBP protocol. Example voltage traces show the initial burst of 5 coincident EPSPs and action potentials and a single test burst of 5 subthreshold EPSPs. Example current traces from a single experiment illustrating the mean EPSC response during the baseline (1) and at 30–35 minutes (2) in the test and control pathways.

Right - TBP does induce LTP in the presence of the Kv7 channel inhibitor XE-991 (ab120089). In the presence of XE-991 (10 μ M), coincident TBP of subthreshold EPSPs and somatic action potentials induced pathway-specific LTP.

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