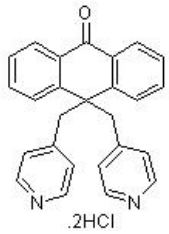
abcam

Product datasheet

XE-991 dihydrochloride, KCNQ channel blocker; blocks M current ab120089

30 References 画像数 3

製品の概要

製品名	XE-991 dihydrochloride, KCNQ channel blocker; blocks M current
製品の詳細	Potent, selective KCNQ channel blocker; blocks M current
生理活性の詳細	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 *in vivo*.
CAS 番号	122955-13-9
構造式	

製品の特性

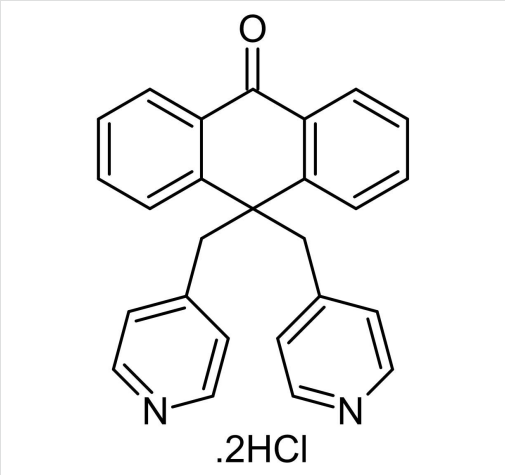
体系名	10,10-Bis(4-pyridinylmethyl)-9(10*H*)-anthracenone dihydrochloride
分子量	449.40
分子式	$C_{26}H_{20}N_2O.2HCl$
PubChem 登録番号	45073462
保存方法	Store at +4°C. Store under desiccating conditions. The product can be stored for up to 12 months.
溶解性	Soluble in water to 100 mM
使用に関する注意	Wherever possible, you should 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. Refer to SDS for further information.

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

SMILES 線形表記 C1=CC=C2C(=C1)C(=O)C3=CC=CC=C3C2(CC4=CC=NC=C4)CC5=CC=NC=C5.Cl.Cl

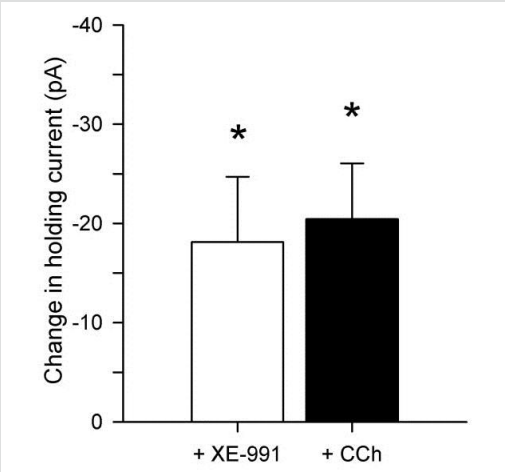
由来 Synthetic

画像



Chemical Structure - XE-991 dihydrochloride, KCNQ channel blocker; blocks M current (ab120089)

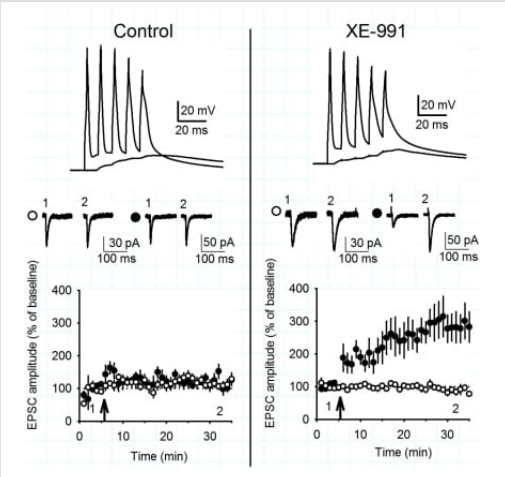
2D chemical structure image of ab120089, XE-991 dihydrochloride, KCNQ channel blocker; blocks M current



Functional Studies - XE-991 dihydrochloride, KCNQ channel blocker; blocks M current (ab120089)

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 µM), ZD7288 (50 µM), prior to and during sequential addition of XE-991 (10 µM) and CCh (50 µM) (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 µM; 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 µM) resulted in an additional inward current, suggesting that CCh blocks a second K+ conductance (*: p<0.05).



Functional Studies - XE-991 dihydrochloride, KCNQ channel blocker; blocks M current (ab120089)

Image from Petrovic MM et al., PLoS One. 2012;7(2):e30402. Fig 1(B,C).; doi: 10.1371/journal.pone.0030402. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/

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 µM), coincident TBP of subthreshold EPSPs and somatic action potentials induced pathway-specific LTP.

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.co.jp/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors
- Abcam biochemicals are novel compounds and we have not tested their biological activity in house. Please use the literature to identify how to use these products effectively. If you require further assistance please contact the scientific support team