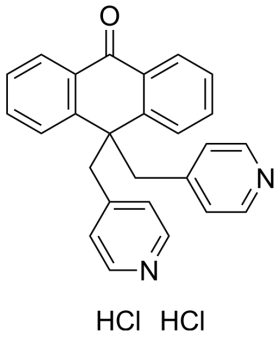
XE991 dihydrochloride

Cat. No.:	HY-108577
CAS No.:	122955-13-9
Molecular Formula:	$C_{26}H_{22}Cl_2N_2O$
Molecular Weight:	449.37
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)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 11.11 mg/mL (24.72 mM; Need ultrasonic)
DMSO : 7.14 mg/mL (15.89 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.2253 mL	11.1267 mL	22.2534 mL
5 mM	0.4451 mL	2.2253 mL	4.4507 mL
10 mM	0.2225 mL	1.1127 mL	2.2253 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.71 mg/mL (1.58 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.71 mg/mL (1.58 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.71 mg/mL (1.58 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

XE991 dihydrochloride, a Kv7 (KCNQ) channels blocker, potently inhibits Kv7.1 (KCNQ1), Kv7.2 (KCNQ2), Kv7.2 + Kv7.3 (KCNQ3) channel, and M-current with IC_{50}s of 0.75 μM, 0.71 μM, 0.6 μM, and 0.98 μM, respectively[1].

IC_{50} & Target

IC50: 0.75 μM (Kv7.1 channel), 0.71 μM (Kv7.2 channel), 0.6 μM (Kv7.2 + Kv7.3 channel), 0.98 μM (M-current)[1]

In Vitro

XE991 dihydrochloride possesses an EC_{50} of 490 nM for enhancement of [^{3}H]ACh release from rat brain slices, and shows good in vivo potency and duration of action[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Front Physiol. 2018 Feb 20;9:117.
- Front Physiol. 2016 Nov 29;7:584.

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REFERENCES

[1]. Wang HS, et al. KCNQ2 and KCNQ3 potassium channel subunits: molecular correlates of the M-channel. Science. 1998 Dec 4;282(5395):1890-3.

[2]. Zaczek R, et al. Two new potent neurotransmitter release enhancers, 10,10-bis(4-pyridinylmethyl)-9(10H)-anthracenone and 10,10-bis(2-fluoro-4-pyridinylmethyl)-9(10H)-anthracenone: comparison to linopirdine. J Pharmacol Exp Ther. 1998 May;285(2):724-30.

[3]. Zaczek R, et al. Two new potent neurotransmitter release enhancers, 10,10-bis(4-pyridinylmethyl)-9(10H)-anthracenone and 10,10-bis(2-fluoro-4-pyridinylmethyl)-9(10H)-anthracenone: comparison to linopirdine. J Pharmacol Exp Ther. 1998 May;285(2):724-30. PMID: 9580619.. . .

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