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DATASHEET

XE 991 dihydrochloride

Product overview

Name	XE 991 dihydrochloride
Cat No	HB1090
Biological action	Blocker
Purity	>98%
Description	Potent, selective K_v7 channel blocker

Images

Biological Data

Biological description

XE 991 dihydrochloride is a potent, selective and water soluble K_v7 (KCNQ) channel blocker.

XE 991 inhibits KCNQ type I_M (M-current), $K_v4.3$ and $K_v1.2$ (IC_{50} values are 0.71, >43 and>100 µM) and blocks KCNQ1 current (K_d = 78 µM).

XE 991 also enhances ACh release (EC_{50} = 490 nM) and facilitates LTP (long term potentiation). Additionally, XE 991 shows cognitive enhancing actions.

Solubility & Handling

Storage instructions	Room temperature (desiccate)
Solubility overview	Soluble in water (100mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	10,10-*bis*(4-Pyridinylmethyl)-9(10*H*)-anthracenone dihydrochloride
Molecular Weight	449.37
Chemical structure	

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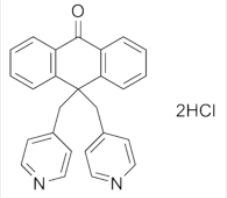

Molecular Formula	$C_{26}H_{20}N_2O.2HCl$
CAS Number	122955-42-4
PubChem identifier	45073462
SMILES	C1=CC=C2C(=C1)C(=O)C3=CC=CC=C3C2(CC4=CC=NC=C4)CC5=CC=NC=C5.Cl.Cl
Source	Synthetic
InChi	InChI=1S/C26H20N2O.2ClH/c29-25-21-5-1-3-7-23(21)26(17-19-9-13-27-14-10-19,18-20-11-15-28-16-12-20)24-8-4-2-6-22(24)25;;/h1-16H,17-18H2;2*1H
InChiKey	WOGWMARIFDNZON-UHFFFAOYSA-N
MDL number	MFCD05662331
Appearance	Off-white solid

References

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.

Zaczek R *et al* (1998) J Pharmacol Exp Ther 285(2)
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Characterization of M-current in ventral tegmental area dop neurons.

Koyama S *et al* (2006) J Neurophysiol 96(2)
PubMedID 16394077

Molecular basis for differential sensitivity of KCNQ and I(Ks) channels to the cognitive enhancer XE991.

Wang HS *et al* (2000) Mol Pharmacol 57(6)
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The M-current inhibitor XE991 decreases the stimulation threshold for long-term synaptic plasticity in healthy mice and in models of cognitive disease.

Fontán-Lozano A *et al* (2011) Hippocampus 21(1)
PubMedID 19921704