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DATASHEET

KB-R7943 mesylate

Product overview

Name	KB-R7943 mesylate
Cat No	HB1133
Biological action	Inhibitor
Purity	>99%
Description	Selective, reverse mode Na ⁺ / Ca ²⁺ exchange inhibitor

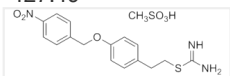
Biological Data

Biological description	Selective, reverse mode Na ⁺ /Ca ²⁺ exchange inhibitor (IC ₅₀ = 0.7 μM). Also potent mitochondrial Ca ²⁺ uniporter inhibitor (K _i = 5.5 μM). Does not affect Na ⁺ -dependent transport systems or ionotropic glutamate receptors. Decreases nitric oxide and hydroxyl radical formation. Displays cardioprotective properties.
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Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in DMSO (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	2-[2-[4-(4-Nitrobenzyloxy)phenyl]ethyl]isothioureamesylate
Molecular Weight	427.49
Chemical structure	
Molecular Formula	C ₁₆ H ₁₇ N ₃ O ₃ S·CH ₃ SO ₃ H
CAS Number	182004-65-5
PubChem identifier	9823846
SMILES	CS(O)(=O)=O.NC(=N)SCCC1=CC=C(OCC2=CC=C(C=C2)[N+])([O-])=O)C=C1
InChiKey	WGIKEBHIKKWJLG-UHFFFAOYSA-N

References

The plasma membrane Na⁺/Ca²⁺ exchange inhibitor KB-R7943 is also a potent inhibitor of the mitochondrial Ca²⁺ uniporter.

Santo-Domingo J *et al* (2007) Br J Pharmacol 151(5)

PubMedID [17471180](#)

Reverse Na⁺/Ca²⁺ exchange contributes to glutamate-induced intracellular Ca²⁺ concentration increases in cultured rat forebrain neurons.

Hoyt KR *et al* (1998) Mol Pharmacol 53(4)

PubMedID

9547366

Role of nitric oxide and free radicals in cardioprotection by blocking Na⁺/H⁺ and Na⁺/Ca²⁺ exchange in rat heart.

Maczewski M *et al* (2003) Eur J Pharmacol 461(2-3)

PubMedID

12586209
