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DATASHEET

Benidipine hydrochloride

Product overview

Name	Benidipine hydrochloride
Cat No	HB1216
Alternative names	KW 3049
Biological action	Inhibitor
Purity	>99%
Description	Ca ²⁺ channel inhibitor

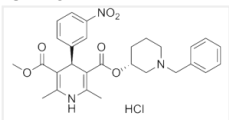
Biological Data

Biological description	L-, N- and T-type Ca ²⁺ channel inhibitor (IC ₅₀ = 2.7 nM for I _{Ca} inhibition). Inhibits the activation of aldosterone-induced mineralocorticoid receptor. Shows anti-atherosclerotic, antihypertensive and cardioprotective actions.
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Solubility & Handling

Storage instructions	room temperature (desiccate)
Solubility overview	Soluble in DMSO (75mM) or ethanol (10mM)
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	(4 <i>R</i>)- <i>rel</i> -1,4-Dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylic acid 3-methyl 5-[(3 <i>R</i>)-1-(phenylmethyl)-3-piperidinyl] ester hydrochloride
Molecular Weight	542.02
Chemical structure	
Molecular Formula	C ₂₈ H ₃₁ N ₃ O ₆ ·HCl
CAS Number	91599-74-5
PubChem identifier	76968919
SMILES	<chem>CC1=C(C(OC)=O)[C@@H]([C@]2=CC([N+])([O-])=O)=CC=C2)C(C(OC(=O)C3=CC=CC=C3C4=CC=CC=C4)CCC3=O)=C(C)N1.CC5=C(C(OC)=O)[C@H]([C@]6=CC([N+])([O-])=O)=CC=C6)C(C(OC(=O)C7=CC=CC=C7)CCC7=O)=C(C)N5.Cl.Cl</chem>
InChiKey	SPMJXDRNJQIBTB-IMEZZWDRSA-N

References

Mechanisms of long-lasting effects of benidipine on Ca current in guinea-pig ventricular cells.

Yamamoto M *et al* (1990) Br J Pharmacol 100(4)

PubMedID [2169935](#)

Pharmacological, pharmacokinetic, and clinical properties of benidipine hydrochloride, a novel, long-acting calcium channel blocker.

Yao K *et al* (2006) J Pharmacol Sci 100(4)

PubMedID [16565579](#)

The L-, N-, and T-type triple calcium channel blocker benidipine acts as an antagonist of mineralocorticoid receptor, a member of nuclear receptor family.

Kosaka H *et al* (2010) Eur J Pharmacol 635(1-3)

PubMedID [20307534](#)
