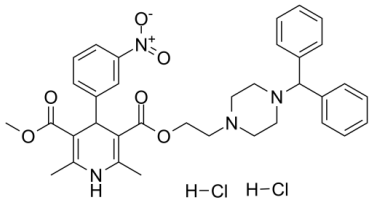
Data Sheet

Product Name:	Manidipine (dihydrochloride)
Cat. No.:	CS-1132
CAS No.:	89226-75-5
Molecular Formula:	C35H40Cl2N4O6
Molecular Weight:	683.62
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Solubility:	DMSO : 50 mg/mL (73.14 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Manidipine dihydrochloride (CV-4093) is a dihydropyridine compound and a calcium channel blocker for Ca2+ current with IC50 of 2.6 nM. IC50 value: 2.6 nM Target: calcium channel Manidipine dihydrochloride is described to block T-type Ca2+ channels specifically and is also described to have a high selectivity for the vasculature, presenting negligible cardiodepression as compared to other Ca2+ channel antagonists. Manidipine is also described to not significantly affect norepinephrine levels, suggesting a lack of sympathetic activation with this compound. Manidipine reduces pro-inflammatory cytokines secretion in human endothelial cells and macrophages. Manidipine, unlike other third-generation dihydropyridine derived drugs, blocks T-type calcium channels present in the efferent glomerular arterioles, reducing intraglomerular pressure and microalbuminuria.

References:

[1]. Buset Ríos N, Rodríguez Esparragón F, Fernández-Andrade Rodríguez C, et al. Vascular and metabolic properties of manidipine . Nefrologia. 2011;31(3):268-74.

[2]. Costa S, Zimetti F, Pedrelli M, et al. Manidipine reduces pro-inflammatory cytokines secretion in human endothelial cells and macrophages. Pharmacol Res. 2010 Sep;62(3):265-70.

[3]. Cavalieri L, Cremonesi G. Metabolic effects of manidipine. Am J Cardiovasc Drugs. 2009;9(3):163-76. doi: 10.2165/00129784-200909030-00004.

[4]. Roca-Cusachs A, Triposkiadis F. Antihypertensive effect of manidipine. Drugs. 2005;65 Suppl 2:11-9.

[5]. Nagaoka A. Pharmacologic characteristics of a new calcium antagonist, manidipine: beneficial effects on renal circulation and vascular changes. Am Heart J. 1993 Feb;125(2 Pt 2):560-5.

CAIndexNames:

3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 3-[2-[4-(diphenylmethyl)-1-piperazinyl]ethyl] 5-methyl ester, hydrochloride (1:2)

SMILES:

O=C(C1=C(C)NC(C)=C(C(OC)=O)C1C2=CC=CC([N+]([O-])=O)=C2)OCCN3CCN(C(C4=CC=CC=C4)C5=CC=CC=C5)CC3.[H]Cl.[H]Cl

Caution: Product has not been fully validated for medical applications. For research use only.

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