



LKT Laboratories, Inc.

Benidipine Hydrochloride

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Product Information

Product ID B1752

CAS No. 91599-74-5

Chemical Name

Synonym KW-3049

Formula $C_{28}H_{31}N_3O_6 \cdot HCl$

Formula Wt. 542.03

Melting Point

Purity $\geq 98\%$

Solubility DMSO Solubility: 8 mg/mL
(14.75 mM)

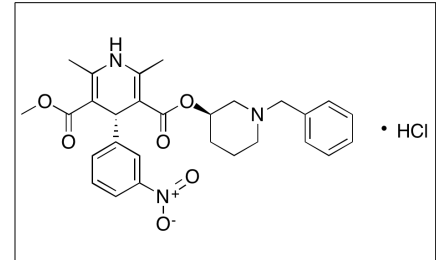
Store Temp Ambient

Ship Temp Ambient

Description

Benidipine is a long-lasting dihydropyridine calcium channel blocker. Its antihypertensive activity involves the inhibition of Ca^{2+} influx through L-type voltage dependent calcium channels and the ability to restore endothelial function. It prevents lysoPC-induced caspase-3 activation through stimulation of NO release thereby exerts its anti-apoptosis action on endothelial cells. Benidipine increases the maximal activity of ERK1/2 but has no significant effect on p38 MAPK, decreases mitochondrial cytochrome c release, and reduces caspase-9 activation.

Benidipine was shown to have antioxidant effect in reducing hydroxyl radicals formation and PKC-dependent NO production. It inhibits $[^3H]$ thymidine incorporation into vascular smooth muscle cells (VSMCs), an indication of its anti-proliferative effects which may be useful for the treatment of restenosis following angioplasty and atherosclerosis damages.



Bulk quantities available upon request

Product ID	Size
B1752	10 mg
B1752	25 mg
B1752	100 mg

References Matsubara M, Yao K, Hasegawa K. Benidipine, a dihydropyridine-calcium channel blocker, inhibits lysophosphatidylcholine-induced endothelial injury via stimulation of nitric oxide release. *Pharmacol Res.* 2006 Jan;53(1):35-43. PMID: 16172001.

Wang N, Minatoguchi S, Chen XH, et al.

Benidipine reduces myocardial infarct size involving reduction of hydroxyl radicals and production of protein kinase C-dependent nitric oxide in rabbits. *J Cardiovasc Pharmacol.* 2004 Jun;43(6):747-57. PMID: 15167267.

Ide S, Kondoh M, Satoh H, Karasawa A. Anti-proliferative effects of benidipine hydrochloride in porcine cultured vascular smooth muscle cells and in rats subjected to balloon catheter-induced endothelial denudation. *Biol Pharm Bull.* 1994 May;17(5):627-31. PMID: 7920421.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.