



# LKT Laboratories, Inc.

## Benidipine Hydrochloride

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### Product Information

**Product ID** B1752

**CAS No.** 91599-74-5

**Chemical Name** 5-O-[(3R)-1-benzylpiperidin-3-yl] 3-O-methyl (4R)-2,6-dimethyl-4-(3-nitrophenyl)-1,4-dihydropyridine-3,5-dicarboxylate;hydrochloride

**Synonym** KW-3049

**Formula** C<sub>28</sub>H<sub>31</sub>N<sub>3</sub>O<sub>6</sub> · HCl

**Formula Wt.** 542.03

**Melting Point**

**Purity** ≥98%

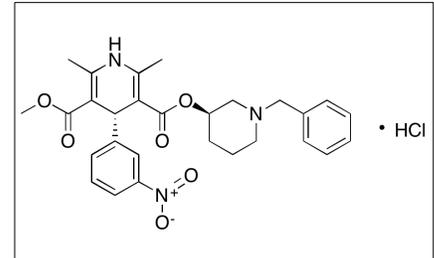
**Solubility** DMSO Solubility: 8 mg/mL (14.75 mM)

**Store Temp** Ambient

**Ship Temp** Ambient

**Description** Benidipine is a long-lasting dihydropyridine calcium channel blocker. Its antihypertensive activity involves the inhibition of Ca<sup>2+</sup> 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.



### Pricing and Availability

*Bulk quantities available upon request*

Product ID	Size	List Price
B1752	10 mg	\$40.50
B1752	25 mg	\$75.30
B1752	100 mg	\$167.90

**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 catheterinduced 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.