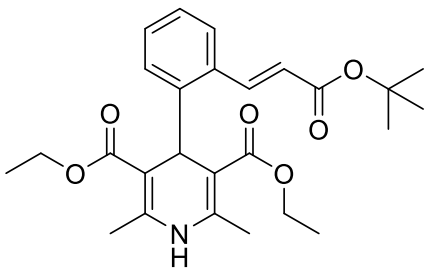


Product data sheet



MedKoo Cat#: 598202 Name: Lacidipine CAS: 103890-78-4 Chemical Formula: C ₂₆ H ₃₃ NO ₆ Exact Mass: 455.2308 Molecular Weight: 455.551		
Product supplied as:		Powder
Purity (by HPLC):		≥ 98%
Shipping conditions		Ambient temperature
Storage conditions:		Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Lacidipine is a dihydropyridine L-type calcium channel blocker. It induces relaxation of isolated rat aorta and inhibits calcium-induced contraction of rabbit ear artery. It also induces relaxation of calcium-induced contractions in isolated rat colon and bladder and guinea pig trachea. Lacidipine induces negative inotropy in isolated guinea pig ventricular strips. It reduces mean blood pressure in spontaneously hypertensive rats and in renal hypertensive dogs with a transient increase in heart rate. Lacidipine inhibits copper-induced oxidation of isolated human LDL when used at concentrations of 1 and 5 μM. It reduces the extension of aortic atheromatous lesions and decreases renal injury in ApoE^{-/-} mice in a model of Western diet-induced atherosclerosis.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	25.0	54.88
DMF:PBS (pH 7.2) (1:3)	0.25	0.55
DMSO	53.67	117.81
Ethanol	13.5	29.63

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.20 mL	10.98 mL	21.95 mL
5 mM	0.44 mL	2.20 mL	4.39 mL
10 mM	0.22 mL	1.10 mL	2.20 mL
50 mM	0.04 mL	0.22 mL	0.44 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Wang F, Chou A, Segatori L. Lacidipine remodels protein folding and Ca²⁺ homeostasis in Gaucher's disease fibroblasts: a mechanism to rescue mutant glucocerebrosidase. *Chem Biol.* 2011 Jun 24;18(6):766-76. doi: 10.1016/j.chembiol.2011.04.008. PMID: 21700212.

2. Bernini F, Canavesi M, Bernardini E, Scurati N, Bellosta S, Fumagalli R. Effect of lacidipine on cholesterol esterification: in vivo and in vitro studies. *Br J Pharmacol.* 1997 Nov;122(6):1209-15. doi: 10.1038/sj.bjp.0701469. PMID: 9401788; PMCID: PMC1565031.

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In vivo study

1. Halici Z, Borekci B, Ozdemir Y, Cadirci E, Suleyman H. Protective effects of amlodipine and lacidipine on ovariectomy-induced bone loss in rats. *Eur J Pharmacol.* 2008 Jan 28;579(1-3):241-5. doi: 10.1016/j.ejphar.2007.09.027. Epub 2007 Oct 3. PMID: 17936271.
2. Kyselovic J, Krenek P, Wibos M, Godfraind T. Effects of amlodipine and lacidipine on cardiac remodelling and renin production in salt-loaded stroke-prone hypertensive rats. *Br J Pharmacol.* 2001 Dec;134(7):1516-22. doi: 10.1038/sj.bjp.0704398. PMID: 11724758; PMCID: PMC1573087.

7. Bioactivity

Biological target:

Lacidipine is an orally active and highly selective L-type calcium channel blocker that acts on smooth muscle calcium channels, primarily dilates peripheral arteries, reduces peripheral resistance, and has long-lasting anti-hypertensive activity.

In vitro activity

Lacidipine, an L-type Ca(2+) channel blocker that also inhibits [Ca(2+)](ER) efflux, enhances folding, trafficking, and activity of degradation-prone GC variants. Lacidipine remodels mutated GC proteostasis by simultaneously activating a series of distinct molecular mechanisms, namely modulation of Ca(2+) homeostasis, upregulation of the ER chaperone BiP, and moderate induction of the unfolded protein response.

Reference: *Chem Biol.* 2011 Jun 24;18(6):766-76. <https://pubmed.ncbi.nlm.nih.gov/21700212/>

In vivo activity

Both doses of lacidipine (1 and 3 mg/kg) also effectively increased calcium concentrations (P<0.01) significantly in ovariectomized rats.

Reference: *Eur J Pharmacol.* 2008 Jan 28;579(1-3):241-5. <https://pubmed.ncbi.nlm.nih.gov/17936271/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.