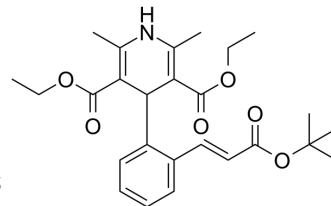


Lacidipine

Cat. No.:	HY-B0347												
CAS No.:	103890-78-4												
Molecular Formula:	C ₂₆ H ₃₃ NO ₆												
Molecular Weight:	455.54												
Target:	Calcium Channel; Reactive Oxygen Species; Caspase; Apoptosis												
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Apoptosis												
Storage:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>2 years</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 year</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	2 years		-20°C	1 year
Powder	-20°C	3 years											
	4°C	2 years											
In solvent	-80°C	2 years											
	-20°C	1 year											



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (109.76 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.1952 mL	10.9760 mL	21.9520 mL
	5 mM	0.4390 mL	2.1952 mL	4.3904 mL
	10 mM	0.2195 mL	1.0976 mL	2.1952 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (5.49 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (5.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

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. Lacidipine protects HKCs from apoptosis induced by ATP depletion and recovery by modulating the caspase-3 pathway. Lacidipine can be used in studies of hypertension, atherosclerosis and acute kidney injury (AKI)^{[1][2]}.

In Vitro

Lacidipine (0.01-100 μM; 24 h) inhibits HKCs proliferation in vitro in a concentration-dependent manner^[1]. Lacidipine (0.01-100 μM; 24 h) protects HKCs against apoptosis induced by ATP depletion and recovery by regulating the caspase-3 pathway^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay^[1]

Cell Line:	HKC cells
Concentration:	0.01-100 μ M
Incubation Time:	24 h
Result:	Exhibited anti-proliferative activity in a concentration-dependent manner.

Apoptosis Analysis^[1]

Cell Line:	HKC cells (renal ischemia reperfusion (I/R) model)
Concentration:	1, 10 μ M
Incubation Time:	24 h
Result:	AA-induced HKC cells apoptosis, with proportion of early apoptotic cells of 1.47% and 0.30% for 1 and 10 μ M dosage, respectively.

Western Blot Analysis^[1]

Cell Line:	HKC cells (renal ischemia reperfusion (I/R) model)
Concentration:	1, 10 μ M
Incubation Time:	24 h (pretreat)
Result:	Decreased the expression of cyt c of injured cells following ATP depletion and recovery. Significantly increased the expression of the Bcl-2 protein, but decreased the Bax protein.

In Vivo

Lacidipine (0.3, 1.0, 3.0 mg/kg; p.o.; single daily for 10 weeks) shows anti-atherogenic effects in the apoE-deficient mouse, and reduces plasma endothelin concentrations^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female C57BL/6 mice (Homozygous; apoE-deficient; atherosclerosis model) ^[2] .
Dosage:	0.3, 1.0, 3.0 mg/kg
Administration:	Oral gavage; single daily for 10 weeks.
Result:	Induced a significant dose-dependent decrease in plasma endothelin levels. Significantly reduced the mean lesion area in a dose-related manner by 10, 17 and 53% for 0.3, 1.0, 3.0 mg/kg, respectively.

CUSTOMER VALIDATION

- Sci Rep. 2022 Nov 5;12(1):18811.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Zhang A, et al. Lacidipine attenuates apoptosis via a caspase-3 dependent pathway in human kidney cells. *Cell Physiol Biochem*. 2013;32(4):1040-9.
- [2]. Cristofori P, et al. The calcium-channel blocker lacidipine reduces the development of atherosclerotic lesions in the apoE-deficient mouse. *J Hypertens*. 2000 Oct;18(10):1429-36.
-

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA