Nimodipine

Cat. No.: HY-B0265

CAS No.: 66085-59-4

Molecular Formula: $C_{21}H_{26}N_2O_7$

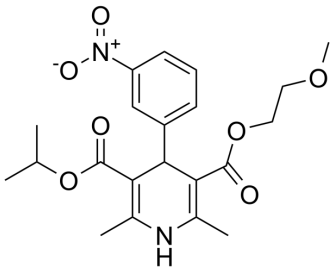
Molecular Weight: 418.44

Target: Autophagy; Calcium Channel

Pathway: Autophagy; Membrane Transporter/Ion Channel; Neuronal Signaling

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (238.98 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3898 mL	11.9491 mL	23.8983 mL
	5 mM	0.4780 mL	2.3898 mL	4.7797 mL
	10 mM	0.2390 mL	1.1949 mL	2.3898 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.97 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Nimodipine (BAY-e 9736) is an orally active, well-tolerated and light-sensitive dihydropyridine calcium antagonist. Nimodipine can be used for the research of cerebrovascular disorders[1].

IC_{50} & Target

dihydropyridine calcium[1]

In Vitro

Nimodipine (1.5~150 μg/ml; 15 minutes; B16a and W256 cells) results in a dose-dependent inhibition of B16a and W256 tumor-cell-induced platelet aggregation. Nimodipine is also inhibitory in a homologous system[3].

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

In Vivo

Nimodipine (0.2 μg/μl, intrathecal administration) prevents subarachnoid hemorrhage-associated cerebral vasospasm by prophylactic continuous intrathecal administration[2].

Nimodipine(0.1~80 mg/kg; p.o.) results in a significant dose-dependent inhibition of spontaneous metastasis[3].

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

Animal Model:	New Zealand white rabbits[2]
Dosage:	0.2 μg/μl
Administration:	Intrathecal administration
Result:	Prevented subarachnoid hemorrhage-associated cerebral vasospasm by prophylactic continuous intrathecal administration.

CUSTOMER VALIDATION

- Front Pharmacol. 13 September 2021.
- Front Cell Neurosci. 2020 Oct 16;14:575626.
- Front Neural Circuits. 2021 Apr 6;15:657445.
- J Neurophysiol. 2020 Jan 1;123(1):277-288.
- Mol Med Rep. 2020 Dec;22(6):5135-5144.

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REFERENCES

[1]. Langley, M.S., et al. Nimodipine. Drugs 37, 669–699 (1989).

[2]. Marbacher S, et al. Prevention of delayed cerebral vasospasm by continuous intrathecal infusion of glyceroltrinitrate and nimodipine in the rabbit model in vivo. Intensive Care Med. 2008;34(5):932-938.

[3]. Honn KV, et al. Inhibition of tumor cell-platelet interactions and tumor metastasis by the calcium channel blocker, nimodipine. Clin Exp Metastasis. 1984;2(1):61-72.

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