Isradipine

Cat. No.: HY-B0233

CAS No.: 75695-93-1

Molecular Formula: $C_{19}H_{21}N_3O_5$

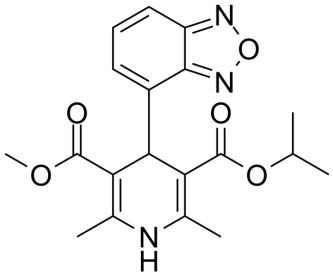
Molecular Weight: 371.39

Target: Calcium Channel; Autophagy

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

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (269.26 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6926 mL	13.4629 mL	26.9259 mL
5 mM	0.5385 mL	2.6926 mL	5.3852 mL
10 mM	0.2693 mL	1.3463 mL	2.6926 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 (6.73 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Isradipine (PN 200-110) is an orally active L-type calcium channel blocker. Isradipine, as a powerful peripheral vasodilator, is a dihydropyridine calcium antagonist with selective actions on the heart as well as the peripheral circulation. Isradipine is a potentially viable neuroprotective agent for Parkinson's disease[1][2][3].

IC_{50} & Target

L-type calcium channel[1][2]

In Vitro	Isradipine has much higher (⊠40 fold) affinity for Cav1.3 channels as well as good brain bioavailability. Isradipine has nearly equal potency at Cav1.2 and Cav1.3 channels[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Isradipine (0.1~3 mg/kg; p.o.) makes sodium excretion increase in a dose-dependent manner[3]. Isradipine pre-treatment reduces 6-hydroxydopamine induced neurotoxicity at the striatal level. Protective effect of isradipine at the striatal level is dose-dependent as shown from 6 mice. Isradipine pre-treatment increases the number of surviving SNc DA cells after 6-hydroxydopamine induced degeneration. Isradipine is capable of protecting striatal dopaminergic terminals and SNc dopaminergic cell bodies against a slow, progressive insult created by intrastriatal injection of 6-hydroxydopamine[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Rats[3]
Dosage:	0.1~3 mg/kg
Administration:	P.o.
Result:	Sodium excretion increased in a dose-dependent manner.

REFERENCES

[1]. Ilijic E, et al. The L-type channel antagonist isradipine is neuroprotective in a mouse model of Parkinson's disease. Neurobiol Dis. 2011;43(2):364-371.

[2]. Campbell CA, et al. Effects of isradipine, an L-type calcium channel blocker on permanent and transient focal cerebral ischemia in spontaneously hypertensive rats. Exp Neurol. 1997;148(1):45-50.

[3]. Hof RP, et al. Selective effects of PN 200-110 (isradipine) on the peripheral circulation and the heart. Am J Cardiol. 1987;59(3):30B-36B.

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

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