Nitrendipine-d5

Cat. No.: HY-B0424S

CAS No.: 2469554-26-3

Molecular Formula: $C_{18}H_{15}D_5N_2O_6$

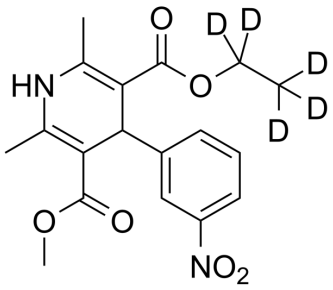
Molecular Weight: 365.39

Target: Calcium Channel; Autophagy

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

Storage: 4°C, protect from light

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (342.10 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7368 mL	13.6840 mL	27.3680 mL
	5 mM	0.5474 mL	2.7368 mL	5.4736 mL
	10 mM	0.2737 mL	1.3684 mL	2.7368 mL

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

BIOLOGICAL ACTIVITY

Description

Nitrendipine-d_5 is the deuterium labeled Nitrendipine. Nitrendipine (BAY-E-5009), an analogue of Nifedipine (HY-B0284), is a dihydropyridine calcium channel blocker with vasodilator action. Nitrendipine has antihypertensive effect[1][2][3][4].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Bellemann, P., et al., [3H]-Nitrendipine, a potent calcium antagonist, binds with high affinity to cardiac membranes. Arzneimittelforschung, 1981. 31(12): p. 2064-7.

[3]. S Kazda, et al. Diuretic effect of nitrendipine contributes to its antihypertensive efficacy: a review. J Cardiovasc Pharmacol. 1988;12 Suppl 4:S1-5.

[4]. M Bursztyn, et al. Nitrendipine improves glucose tolerance and deoxyglucose uptake in hypertensive rats. Hypertension. 1994 Jun;23(6 Pt 2):1051-3.

[5]. He-Hui Xie, et al. Synergism of atenolol and nitrendipine on hemodynamic amelioration and organ protection in hypertensive rats. J Hypertens. 2005 Jan;23(1):193-201.

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