Felodipine-d_3

Cat. No.: HY-B0309S2

CAS No.: 1219795-30-8

Molecular Formula: $C_{18}H_{16}D_3Cl_2NO_4$

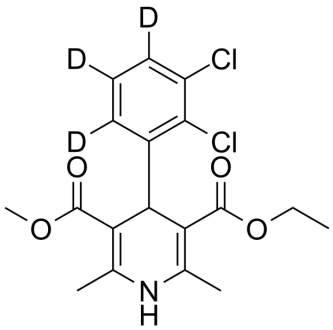
Molecular Weight: 387.27

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	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (258.22 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5822 mL	12.9109 mL	25.8218 mL
	5 mM	0.5164 mL	2.5822 mL	5.1644 mL
	10 mM	0.2582 mL	1.2911 mL	2.5822 mL

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

BIOLOGICAL ACTIVITY

Description

Felodipine-d_3 is the deuterium labeled Felodipine. Felodipine, a dihydropyridine, is a potent, vasoselective calcium channel antagonist. Felodipine lowers blood pressure (BP) by selective action on vascular smooth muscle, especially in the resistance vessels. Felodipine, an anti-hypertensive agent, induces autophagy. Felodipine can cross the blood-brain barrier[1][2][3].

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]. Johnson JD, et al. Calcium and calmodulin antagonists binding to calmodulin and relaxation of coronary segments. J Pharmacol Exp Ther. 1983;226(2):330-334.

[3]. Siddiqi FH, et al. Felodipine induces autophagy in mouse brains with pharmacokinetics amenable to repurposing [published correction appears in Nat Commun. 2019 Jun 4;10(1):2530]. Nat Commun. 2019;10(1):1817. Published 2019 Apr 18.

[4]. Yiu, S. and E.E. Knaus, Synthesis, biological evaluation, calcium channel antagonist activity, and anticonvulsant activity of felodipine coupled to a dihydropyridine-pyridinium salt redox chemical delivery system. J Med Chem, 1996. 39(23): p. 4576-82.

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