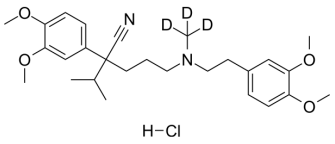
Verapamil-d_3 hydrochloride

Cat. No.:	HY-A0064S
CAS No.:	2714485-49-9
Molecular Formula:	$C_{27}H_{36}D_3ClN_2O_4$
Molecular Weight:	494.08
Target:	P-glycoprotein; Calcium Channel; Cytochrome P450; Isotope-Labeled Compounds
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Metabolic Enzyme/Protease; Others
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



BIOLOGICAL ACTIVITY

Description	Verapamil-d_3 (hydrochloride) is the deuterium labeled Verapamil hydrochloride. Verapamil hydrochloride ((±)-Verapamil hydrochloride) is a calcium channel blocker and a potent and orally active first-generation P-glycoprotein (P-gp) inhibitor. Verapamil hydrochloride also inhibits CYP3A4. Verapamil hydrochloride has the potential for high blood pressure, heart arrhythmias and angina research[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.

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[3]. Rehnqvist N,et al. Effects of metoprolol vs verapamil in patients with stable angina pectoris. The Angina Prognosis Study in Stockholm (APSIS). Eur Heart J. 1996 Jan;17(1):76-81.

[4]. Kubo Y, et al. Blood-to-Retina Transport of Fluorescence-Labeled Verapamil at the Blood-Retinal Barrier. Pharm Res. 2018 Mar 12;35(5):93.

[5]. Gowarty JL, et al. Verapamil as a culprit of palbociclib toxicity. J Oncol Pharm Pract. 2019 Apr;25(3):743-746.

[6]. Zhou P, et al. Anti-arrhythmic effect of Verapamil is accompanied by preservation of cx43 protein in rat heart. PLoS One. 2013 Aug 12;8(8):e71567.

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