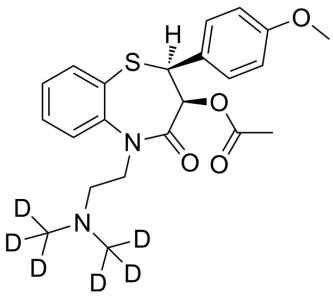
Diltiazem-d_6

Cat. No.:	HY-B0632S
CAS No.:	1242184-41-3
Molecular Formula:	$C_{22}H_{20}D_6N_2O_4S$
Molecular Weight:	420.55
Target:	Calcium Channel; Isotope-Labeled Compounds
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Diltiazem-d_6 is the deuterium labeled Diltiazem. Diltiazem is an orally active L-type Ca2+ channel blocker, with antihypertensive and antiarrhythmic effects. Diltiazem can be used for the research of cardiac arrhythmia, hypertension, and angina pectoris[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]. Yoshinari Niimi, et al. Diltiazem facilitates inactivation of single L-type calcium channels in guinea pig ventricular myocytes. Jpn Heart J. 2003 Nov;44(6):1005-14.

[3]. S Lin Tang, et l. Structural Basis for Diltiazem Block of a Voltage-Gated Ca2+ Channel. Mol Pharmacol. 2019 Oct; 96(4): 485-492.

[4]. Anja Mieth , et al. L-type calcium channel inhibitor diltiazem prevents aneurysm formation by blood pressure-independent anti-inflammatory effects. Hypertension. 2013 Dec;62(6):1098-104.

[5]. S. J. Downing, et al. Diltiazem pharmacokinetics in the rat and relationship between its serum concentration and uterine and cardiovascular effects. Br J Pharmacol. 1987 Aug; 91(4): 735-745.

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