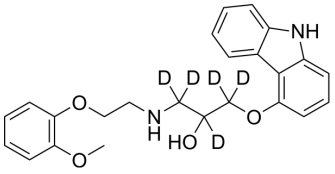
Carvedilol-d_5

Cat. No.:	HY-B0006S2
CAS No.:	929106-58-1
Molecular Formula:	$C_{24}H_{21}D_5N_2O_4$
Molecular Weight:	411.51
Target:	Adrenergic Receptor; Autophagy; Isotope-Labeled Compounds
Pathway:	GPCR/G Protein; Neuronal Signaling; Autophagy; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Carvedilol-d_5 is deuterium labeled Carvedilol. Carvedilol (BM 14190) is a non-selective β/α-1 blocker[1]. Carvedilol inhibits lipid peroxidation in a dose-dependent manner with an IC50 of 5 μM. Carvedilol is a multiple action antihypertensive agent with potential use in angina and congestive heart failure[2]. Carvedilol is an autophagy inducer that inhibits the NLRP3 inflammasome[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]. Eggertsen R, et al. Acute haemodynamic effects of carvedilol (BM 14190), a new combined beta-adrenoceptor blocker and precapillary vasodilating agent, in hypertensive patients. Eur J Clin Pharmacol. 1984;27(1):19-22.

[3]. Feuerstein GZ, et al. Myocardial protection by the novel vasodilating beta-blocker, carvedilol: potential relevance of anti-oxidant activity. J Hypertens Suppl. 1993 Jun;11(4):S41-8.

[4]. Wong WT, et al. Repositioning of the β-Blocker Carvedilol as a Novel Autophagy Inducer That Inhibits the NLRP3 Inflammasome. Front Immunol. 2018 Aug 22;9:1920.

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