Product Data Sheet

Product Name: Carvedilol-d4
Cat. No.: GC64003

Chemical Properties

Cas. No.	1133705-56-2		
Formula	C24H22D4N2O4	M.Wt	410.5
Solubility	DMSO : 100 mg/mL (243.61 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Carvedilol-d4		

Background

Carvedilol-d4 (BM 14190-d4) is the 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].

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].

[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.

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[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.