Product Data Sheet

Product Name: Indomethacin-d4 Methyl Ester
Cat. No.: GC68423

Chemical Properties

Cas. No.	1217064-61-3		
Formula	$C_{20}H_{14}D_4ClNO_4$	M.Wt	375.84
Solubility	DMSO : 100 mg/mL (266.07 mM; ultrasonic and warming and heat to 60°C)	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	Indomethacin-d4 Methyl Ester		

Background

Indomethacin-d4 Methyl Ester is the deuterium labeled Indomethacin. Indomethacin (Indometacin) is a potent, blood-brain permeable and nonselective inhibitor of **COX1** and **COX2**, with **IC_{50}**s of 18 nM and 26 nM for human COX-1 and COX-2, respectively, in CHO cells[1]. Indomethacin disrupts **autophagic flux** by disturbing the normal functioning of lysosomes[2].

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]. Riendeau D, et al. Biochemical and pharmacological profile of a tetrasubstituted furanone as a highly selective COX-2 inhibitor. Br J Pharmacol. 1997 May;121(1):105-17.
[3]. Jorge Vallecillo-HernÁndez, et al. Indomethacin Disrupts Autophagic Flux by Inducing Lysosomal Dysfunction in Gastric Cancer Cells and Increases Their Sensitivity to

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Cytotoxic Drugs. Sci Rep. 2018 Feb 26;8(1):3593.
[4]. Lopes RS, et al. Indomethacin treatment reduces microglia activation and increases numbers of neuroblasts in the subventricular zone and ischaemic striatum after focal ischaemia. J Biosci. 2016 Sep;41(3):381-94.
[5]. Afroz S, et al. Concentrated phosphatidic acid in cereal brans as potential protective agents against indomethacin-induced stomach ulcer. J Agric Food Chem. 2016 Aug 26.

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