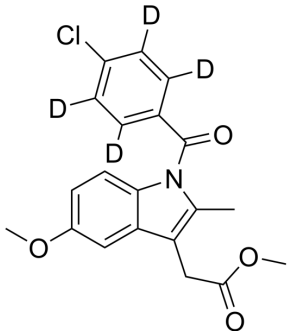
Indomethacin-d_4 Methyl Ester

Cat. No.:	HY-14397S1
CAS No.:	1217064-61-3
Molecular Formula:	$C_{20}H_{14}D_4ClNO_4$
Molecular Weight:	375.84
Target:	COX; Autophagy
Pathway:	Immunology/Inflammation; Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (266.07 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6607 mL	13.3035 mL	26.6071 mL
	5 mM	0.5321 mL	2.6607 mL	5.3214 mL
	10 mM	0.2661 mL	1.3304 mL	2.6607 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Indomethacin-d_4 Methyl Ester is the deuterium labeled Indomethacin. Indomethacin (Indometacin) is a potent, blood-brain permeable and nonselective inhibitor of COX1 and COX2, with IC50s 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].

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]. 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

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[3]. Jorge Vallecillo-Hernández, et al. Indomethacin Disrupts Autophagic Flux by Inducing Lysosomal Dysfunction in Gastric Cancer Cells and Increases Their Sensitivity to Cytotoxic Drugs. Sci Rep. 2018 Feb 26;8(1):3593.

[4]. 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.

[5]. 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.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA