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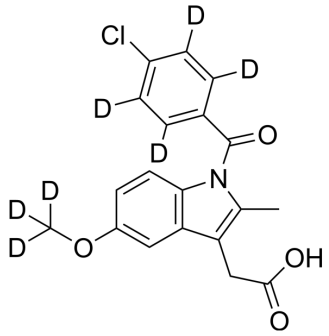
Indometacin-d_7

Cat. No.:	HY-14397S2
Molecular Formula:	$C_{19}H_9D_7ClNO_4$
Molecular Weight:	364.83
Target:	Bacterial; Influenza Virus; Antibiotic; COX; Isotope-Labeled Compounds
Pathway:	Anti-infection; Immunology/Inflammation; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Indometacin-d_7 is deuterated labeled Indomethacin (HY-14397). Indomethacin (Indometacin) is a potent, orally active COX1/2 inhibitor with IC_{50} values of 18 nM and 26 nM for COX-1 and COX-2, respectively. Indomethacin has anticancer activity and anti-infective activity. Indomethacin can be used for cancer, inflammation and viral infection research[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]. Indomethacin (Indometacin) (0-150 μM; 24 hours; 3LL-D122 cells) has anticancer activity in vitro[3]. Indomethacin (Indometacin) (0-1000 μM) protects the host cells from damage caused by the virus through activates PKR, resulting in eIF2α phosphorylation, and in turn shutting of translation of viral protein and inhibiting replication of the virus (IC_{50}=2μM)[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Helleberg L, et, al. Clinical Pharmacokinetics of indomethacin. Clin Pharmacokinet. 1981 Jul-Aug;6(4):245-58.

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[5]. Danisman B, et, al, Carnosic Acid Ameliorates Indomethacin-Induced Gastric Ulceration in Rats by Alleviating Oxidative Stress and Inflammation. Biomedicines. 2023 Mar 9;11(3):829.

[6]. Amici C, et, al. Inhibition of viral protein translation by indomethacin in vesicular stomatitis virus infection: role of eIF2α kinase PKR. Cell Microbiol. 2015 Sep;17(9):1391-404.

[7]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

Caution: Product has not been fully validated for medical applications. For research use only.

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