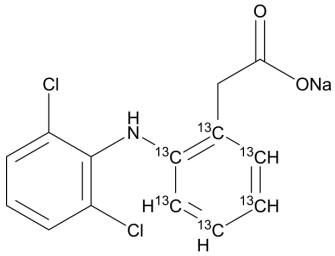
Diclofenac-$^{13}C_6$ sodium

Cat. No.:	HY-15037S2
CAS No.:	1261393-73-0
Molecular Formula:	$C_8{}^{13}C_6H_{10}Cl_2NNaO_2$
Molecular Weight:	324.09
Target:	Apoptosis; COX; Isotope-Labeled Compounds
Pathway:	Apoptosis; Immunology/Inflammation; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Diclofenac-$^{13}C_6$ (Sodium) is the $^{13}C_6$ labeled Diclofenac (Sodium). Diclofenac Sodium (GP 45840) is a potent and nonselective anti-inflammatory agent, acts as a COX inhibitor, with IC50s of 4 and 1.3 nM for human COX-1 and COX-2 in CHO cells, and 5.1 and 0.84 μM for ovine COX-1 and COX-2, respectively. Diclofenac Sodium induces apoptosis of neural stem cells (NSCs) via the activation of the caspase cascade.
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]. Chiho Kudo, et al. Diclofenac Inhibits Proliferation and Differentiation of Neural Stem Cells. Biochem Pharmacol. 2003 Jul 15;66(2):289-95.

[2]. Labib MB, et al. Design, synthesis of novel isoindoline hybrids as COX-2 inhibitors: Anti-inflammatory, analgesic activities and docking study. Bioorg Chem. 2018 Oct;80:70-80.

[3]. 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.

[4]. 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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