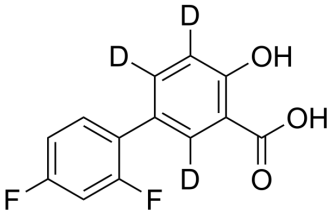
Diflunisal-d_3

Cat. No.:	HY-18342S
CAS No.:	1286107-99-0
Molecular Formula:	$C_{13}H_5D_3F_2O_3$
Molecular Weight:	253.22
Target:	COX; Isotope-Labeled Compounds
Pathway:	Immunology/Inflammation; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Diflunisal-d_3 is the deuterium labeled Diflunisal. Diflunisal (MK-647) is a salicylate derivative with nonsteroidal anti-inflammatory and uricosuric properties, which is used alone as an analgesic and in rheumatoid arthritis patients. The mechanism of action of diflunisal is as a Cyclooxygenase (COX) Inhibitor.
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]. Lin JH, et al. Dose-dependent pharmacokinetics of diflunisal in rats: dual effects of protein binding and metabolism. J Pharmacol Exp Ther. 1985 Nov;235(2):402-6.

[3]. Winter CA, et al. Analgesic activity of diflunisal [MK-647; 5-(2,4-difluorophenyl)salicylic acid] in rats with hyperalgesia induced by Freund's adjuvant. J Pharmacol Exp Ther. 1979 Dec;211(3):678-85.

[4]. Cappon GD, et al. Relationship between cyclooxygenase 1 and 2 selective inhibitors and fetal development when administered to rats and rabbits during the sensitive periods for heart development and midline closure. Birth Defects Res B Dev Reprod Toxicol. 2003 Feb;68(1):47-56.

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