Flurbiprofen-d_4

Cat. No.: HY-10582S3

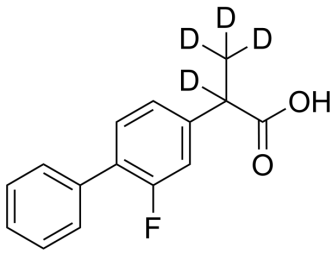
Molecular Formula: $C_{15}H_9D_4FO_2$

Molecular Weight: 248.29

Target: COX; Apoptosis; Isotope-Labeled Compounds

Pathway: Immunology/Inflammation; Apoptosis; Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Flurbiprofen-d_4 is deuterated labeled Flurbiprofen (HY-10582). Flurbiprofen (dl-Flurbiprofen) is a potent, orally active nonsteroidal anti-inflammatory agent (NSAIA/NSAID), with antipyretic and analgesic activities. Flurbiprofen is commonly used for the research of inflammatory diseases, including osteoarthritis and rheumatoid arthritis. Flurbiprofen is a non-selective cyclooxygenase (COX) inhibitor that can be used for the research of colorectal cancer[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].

Flurbiprofen (2-20 nM; 12-48 hours) significantly decreases SW620 cells proliferation in a concentration- and time-dependent manner[2].

Flurbiprofen (10 nM; 24 hours) decreases COX-2 expression[2].

Flurbiprofen (10 nM; 24 hours) inhibits the expression of inflammatory factors by inhibiting COX-2[2].

Flurbiprofen (10 nM; 24 hours) promotes the apoptosis of colorectal cancer cells by inhibiting COX-2[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Flurbiprofen (0.3-4.8 mg/kg; p.o.; 4-5 dosages) has acute anti-inflammatory in adrenalectomized rats[3].

Flurbiprofen (10 mg/kg; i.p.; daily; for 6 days) attenuates high-fat diet-induced obesity in mice[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Hosoi, T., et al., Flurbiprofen ameliorated obesity by attenuating leptin resistance induced by endoplasmic reticulum stress. EMBO Mol Med, 2014.

[2]. Xiaobo Wang, et al. Flurbiprofen suppresses the inflammation, proliferation, invasion and migration of colorectal cancer cells via COX2. Oncol Lett. 2020 Nov; 20(5): 132.

[3]. E M Glenn, et al. The pharmacology of 2-(2-fluoro-4-biphenylyl)propionic acid (flurbiprofen). A potent non-steroidal anti-inflammatory drug. Agents Actions. 1973 Nov;3(4):210-6.

[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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