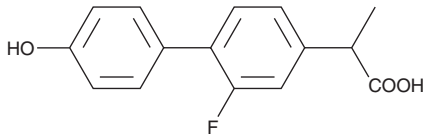
PRODUCT INFORMATION

4'-hydroxy Flurbiprofen

Item No. 21691

CAS Registry No.: 52807-12-2
Formal Name: 2-fluoro-4'-hydroxy-α-methyl-[1,1'-biphenyl]-4-acetic acid
MF: $C_{15}H_{13}FO_3$
FW: 260.3
Purity: ≥95%
UV/Vis.: λ_{max}: 260 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

4'-hydroxy Flurbiprofen is supplied as a crystalline solid. A stock solution may be made by dissolving the 4'-hydroxy flurbiprofen in the solvent of choice, which should be purged with an inert gas. 4'-hydroxy Flurbiprofen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4'-hydroxy flurbiprofen in ethanol and DMF is approximately 25 mg/ml and approximately 10 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 4'-hydroxy flurbiprofen can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4'-hydroxy flurbiprofen in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4'-hydroxy Flurbiprofen is a major active metabolite of the COX inhibitor flurbiprofen (Item No. 70250) and its enantiomers (R)-flurbiprofen (Item No. 70255) and (S)-flurbiprofen (Item No. 10004207).[1] It is formed from flurbiprofen by the cytochrome P450 (CYP) isoform CYP2C9, including CYP2C9 containing an R144C substitution mutation. 4'-hydroxy Flurbiprofen inhibits COX-1 by 94% at a concentration of 1,000 µM but does not inhibit cyclooxygenation of arachidonic acid.[2] It completely inhibits cyclooxygenation of 2-arachidonoyl glycerol (2-AG; Item No. 62160) when used at a concentration of 300 µM. 4'-hydroxy Flurbiprofen inhibits fatty acid amide hydrolase (FAAH) hydrolysis of anandamide in rat brain homogenates with an IC_{50} value of 84 µM at a pH of 6.

References

1. Tracy, T.S., Marra, C., Wrighton, S.A., *et al.* Studies of flurbiprofen 4'-hydroxylation. Additional evidence suggesting the sole involvement of cytochrome P450 2C9. *Biochem. Pharmacol.* **52(8)**, 1305-1309 (1996).
2. Karlsson, J. and Fowler, C.J. Inhibition of endocannabinoid metabolism by the metabolites of ibuprofen and flurbiprofen. *PLoS One* **9(7)**, e103589 (2014).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM