

Product Data Sheet

Product Name: Sulindac sulfide

Cat. No.: GC15059

Chemical Properties

Cas. No. 49627-27-2

Chemical Name (Z)-2-(5-fluoro-2-methyl-1-(4-(methylthio)benzylidene)-1H-inden-3-yl)acetic acid

SMILES FC1=CC2=C(/C(C(C)=C2CC(O)=O)=C\C3=CC=C(C(SC)C=C3)C=C1

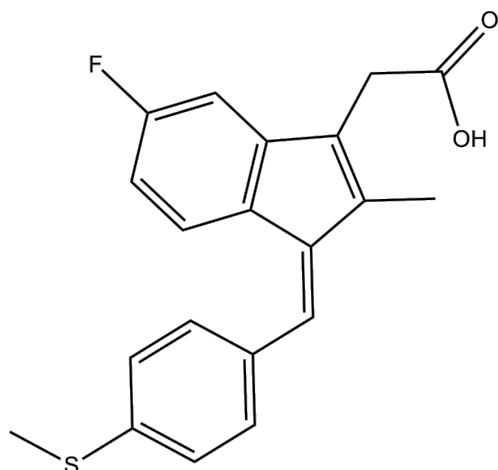
Formula $C_{20}H_{17}FO_2S$ M.Wt 340.41

Solubility 2mg/mL in ethanol, 30mg/mL in DMSO, or in DMF Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Sulindac is a non-steroidal anti-inflammatory drug that has an extensive epidemiology documenting reduced human colorectal cancer. In mouse models, sulindac was found not only to inhibit the enzymatic activity of polyp-associated COX-2, but also to downregulate the expression of colonic COX-2 protein to control levels.[1] Sulindac sulfide is a metabolite of sulindac that has diverse

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

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activities.[2],[3] It inhibits both COX-1 and COX-2 (IC₅₀s = 1.9 and 1.21 μ M, respectively), whereas the parent compound, sulindac, is much less effective (IC₅₀ = 58 μ M for COX-2 and > 100 μ M for COX-1).[4] Sulindac sulfide also inhibits aldose reductase (IC₅₀ = 279 nM), blocking NADPH-dependent reduction of glucose to sorbitol, and reducing type 2 diabetic complications.[5] It increases the expression and activity of NAD(P)H quinone oxidoreductase [1].[6] Sulindac sulfide inhibits colorectal cancer growth both in vitro and in vivo.[7]

Reference:

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- [3]. Brunell, D., Sagher, D., Kesaraju, S., et al. Studies on the metabolism and biological activity of the epimers of sulindac. *Drug Metabolism and Disposition* 39(6), 1014-1021 (2011).
- [4]. Warner, T.D., Giuliano, F., Vojnovic, I., et al. Nonsteroid drug selectivities for cyclo-oxygenase-1 rather than cyclo-oxygenase-2 are associated with human gastrointestinal toxicity: A full in vitro analysis. *Proc. Nat. Acad. Sci. USA* 96(13), 7563-7568 (1999).
- [5]. Zheng, X., Zhang, L., Zhai, J., et al. The molecular basis for inhibition of sulindac and its metabolites towards human aldose reductase. *FEBS Letters* 586(1), 55-59 (2012).
- [6]. Kung, H.N., Weng, T.Y., Liu, Y.L., et al. Sulindac compounds facilitate the cytotoxicity of β -lapachone by up-regulation of NAD(P)H quinone oxidoreductase in human lung cancer cells. *PLoS One* 9(2), 1-15 (2014).
- [7]. Williams, C.S., Goldman, A.P., Sheng, H., et al. Sulindac sulfide, but not sulindac sulfone, inhibits colorectal cancer growth. *Neoplasia* 1(2), 170-176 (1999).

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