

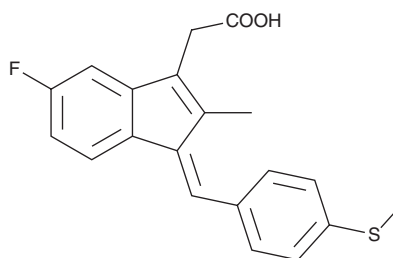
PRODUCT INFORMATION



Sulindac sulfide

Item No. 10004387

CAS Registry No.: 49627-27-2
Formal Name: 5-fluoro-2-methyl-1Z-[[4-(methylthio)phenyl]methylene]-1H-indene-3-acetic acid
MF: C₂₀H₁₇FO₂S
FW: 340.4
Purity: ≥98%
UV/Vis.: λ_{max}: 203, 258, 341, 347 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

Sulindac sulfide is supplied as a crystalline solid. A stock solution may be made by dissolving the sulindac sulfide in the solvent of choice, which should be purged with an inert gas. Sulindac sulfide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sulindac sulfide in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 sulindac sulfide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of sulindac sulfide in PBS (pH 7.2) is approximately 0.05 mg/ml. For maximum solubility in aqueous buffers, sulindac sulfide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Sulindac sulfide has a solubility of approximately 0.15 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sulindac sulfide is an active metabolite of the non-steroidal anti-inflammatory drug (NSAID) and COX inhibitor sulindac (Item No, 10004386).^{1,2} It inhibits both COX-1 and COX-2 (IC₅₀s = 1.9 and 1.21 μM, respectively), whereas the parent compound, sulindac, is much less effective (IC₅₀ = 58 μM for COX-2 and > 100 μM for COX-1).³ Sulindac sulfide also inhibits aldose reductase (IC₅₀ = 279 nM), blocking NADPH-dependent reduction of glucose to sorbitol, and reducing type 2 diabetic complications.⁴ It increases the expression and activity of NAD(P)H quinone oxidoreductase 1.⁵ Sulindac sulfide inhibits colorectal cancer growth both *in vitro* and *in vivo*.⁶

References

1. Kitamura, S. and Tatsumi, K. *Jpn. J. Pharmacol.* **32(5)**, 833-838 (1982).
2. Brunell, D., Sagher, D., Kesaraju, S., et al. *Drug Metab. Dispos.* **39(6)**, 1014-1021 (2011).
3. Warner, T.D., Giuliano, F., Vojnovic, I., et al. *Proc. Natl. Acad. Sci. USA* **96(13)**, 7563-7568 (1999).
4. Zheng, X., Zhang, L., Zhai, J., et al. *FEBS Lett.* **586(1)**, 55-59 (2012).
5. Kung, H.-N., Weng, T.-Y., Liu, Y.-L., et al. *PLoS One* **9(2)**, 1-15 (2014).
6. Williams, C.S., Goldman, A.P., Sheng, H., et al. *Neoplasia* **1(2)**, 170-176 (1999).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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