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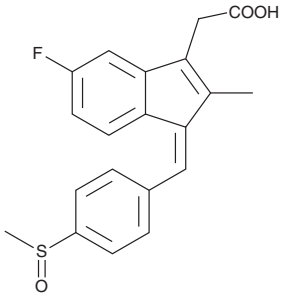
PRODUCT INFORMATION

Sulindac

Item No. 10004386

CAS Registry No.:	38194-50-2
Formal Name:	5-fluoro-2-methyl-1Z-[[4-(methyl-sulfinyl)phenyl]methylene]-1H-indene-3-acetic acid
MF:	$C_{20}H_{17}FO_3S$
FW:	356.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 226, 258, 286, 329 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 is supplied as a crystalline solid. A stock solution may be made by dissolving the sulindac in the solvent of choice, which should be purged with an inert gas. Sulindac is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sulindac 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 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of sulindac in PBS (pH 7.2) is approximately 0.05 mg/ml. For maximum solubility in aqueous buffers, sulindac should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Sulindac 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 is a non-steroidal anti-inflammatory drug (NSAID), a COX-2 inhibitor (IC_{50} = 0.79 µM), and a prodrug form of the COX inhibitor sulindac sulfide (Item No. 10004387).[1,2] It is selective for COX-2 over COX-1 (IC_{50} = >1,000 µM). [2] It inhibits acetic acid-induced writhing in mice and reduces carrageenan-induced paw edema in rats when administered at a dose of 100 mg/kg.[3] Sulindac (60 mg/kg) reduces tumor growth in a BxPC-3 pancreatic cancer mouse xenograft model.[4] Formulations containing sulindac have been used in the treatment of pain and inflammation associated with arthritis.

References

1. Grossman, C.J., Wiseman, J., Lucas, F.S., *et al.* Inhibition of constitutive and inducible cyclooxygenase activity in human platelets and mononuclear cells by NSAIDs and Cox 2 inhibitors. *Inflamm. Res.* **44(6)**, 253-257 (1995).
2. Duggan, D.E., Hooke, K.F., Noll, R.M., *et al*. Comparative disposition of sulindac and metabolites in five species. Biochem. Pharmacol. **27(19)**, 2311-2320 (1978).
3. Bhat, M.A., Al-Omar, M.A., Alsaif, N.A., *et al.* Novel sulindac derivatives: Synthesis, characterisation, evaluation of antioxidant, analgesic, anti-inflammatory, ulcerogenic and COX-2 inhibition activity. *J. Enzyme Inhib. Med. Chem.* **35(1)**, 921-934 (2020).
4. Yip-Schneider, M.T., Wu, H., Ralstin, M., *et al.* Suppression of pancreatic tumor growth by combination chemotherapy with sulindac and LC-1 is associated with cyclin D1 inhibition *in vivo*. *Mol. Cancer Ther.* **6(6)**, 1736-1744 (2007).

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