

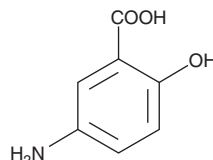
PRODUCT INFORMATION



5-Aminosalicylic Acid

Item No. 70265

CAS Registry No.: 89-57-6
Formal Name: 5-amino-2-hydroxy-benzoic acid
Synonym: 5-ASA
MF: C₇H₇NO₃
FW: 153.1
Purity: ≥99%
Supplied as: A crystalline solid
Storage: Room temperature
Stability: ≥4 years



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

Laboratory Procedures

5-Aminosalicylic acid (5-ASA) is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-ASA in the solvent of choice. 5-ASA is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of 5-ASA in these solvents is approximately 4 and 1.6 mg/ml, respectively.

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 5-ASA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 5-ASA in PBS, pH 7.2, is approximately 1.7 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

5-ASA is a non-steroidal anti-inflammatory drug (NSAID) and an active metabolite of sulfasalazine (Item No. 15025), balsalazide (Item No. 18680), and olsalazine (Item No. 23661).¹ It is formed from these prodrugs by bacterial azoreductases in the intestinal lumen.² 5-ASA selectively inhibits COX-2 over COX-1 in isolated human whole blood (IC₅₀s = 61 and 410 μM, respectively). It inhibits hemoglobin- and hydrogen peroxide-induced lipid peroxidation in a cell-free assay (IC₅₀ = 50 μM).³ 5-ASA (100 μM) also inhibits the synthesis of leukotriene B₄ (LTB₄; Item No. 20110) in isolated human mucosal cells.⁴ Formulations containing 5-ASA have been used in the treatment of inflammatory bowel disease (IBD) and ulcerative colitis.

References

1. 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. Natl. Acad. Sci. USA* **96**, 7563-7568 (1999).
2. Nugent, S.G., Kumar, D., Rampton, D.S., *et al.* Intestinal luminal pH in inflammatory bowel disease: Possible determinants and implications for therapy with aminosalicylates and other drugs. *Gut* **48(4)**, 571-577 (2001).
3. Beiranvand, M. A review of the biological and pharmacological activities of mesalazine or 5-aminosalicylic acid (5-ASA): An anti-ulcer and anti-oxidant drug. *Inflammopharmacology* **29(5)**, 1279-1290 (2021).
4. Schmidt, C., Fels, T., Baumeister, B., *et al.* The effect of 5-aminosalicylate and para-aminosalicylate on the synthesis of prostaglandin E2 and leukotriene B4 in isolated colonic mucosal cells. *Curr. Med. Res. Opin.* **13(7)**, 417-425 (1996).

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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