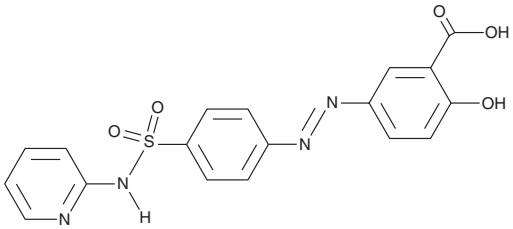
PRODUCT INFORMATION

Sulfasalazine

Item No. 15025

CAS Registry No.: 599-79-1
Formal Name: 2-hydroxy-5-[2-[4-[(2-pyridinylamino) sulfonyl]phenyl]diazenyl]-benzoic acid
Synonyms: Azopyrin, NSC 203730, NSC 667219
MF: $C_{18}H_{14}N_4O_5S$
FW: 398.4
Purity: ≥98%
UV/Vis.: λ_{max}: 355 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

Sulfasalazine is supplied as a crystalline solid. A stock solution may be made by dissolving the sulfasalazine in the solvent of choice, which should be purged with an inert gas. Sulfasalazine is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of sulfasalazine in these solvents is approximately 100 and 30 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 sulfasalazine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of sulfasalazine in PBS (pH 7.2) is approximately 0.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Sulfasalazine is a prodrug form of the anti-inflammatory agent 5-aminosalicylic acid (Item No. 70265) that is covalently linked to the antibiotic sulfapyridine by an azo bond.[1] This bond is rapidly cleaved by bacteria in the terminal ileum and colon, releasing the active anti-inflammatory component. Sulfasalazine (0.1-5 mM) inhibits TNF-α and LPS-induced NF-κB activation in SW620 colon cancer cells.[2] It also inhibits degradation of IκBα and prevents nuclear translocation of NF-κB induced by TNF-α. Sulfasalazine (0.25 mM) inhibits cystine uptake through the system x_c^- cysteine-glutamate transporter and inhibits the growth of U-87MG glioma cells in an NF-κB independent manner when used at concentrations ranging from 0.25 to 1 mM.[3] Sulfasalazine (100 mg/kg) decreases diarrhea, increases food intake, and reverses body weight decreases in a mouse model of colitis.[1] It is also suppresses antigen-induced arthritis in mice.[4] Formulations containing sulfasalazine have been used in the treatment of ulcerative colitis and rheumatoid arthritis.

References

1. Jiang, G.-L., Im, W.B., Donde, Y., *et al. J. Pharmacol. Exp. Ther.* **335(3)**, 546-552 (2010).
2. Wahl, C., Liptay, S., Adler, G., *et al. J. Clin. Invest.* **101(5)**, 1163-1174 (1997).
3. Chung, W.J. and Sontheimer, H. *J. Neurochem.* **110(1)**, 182-193 (2009).
4. Crossley, M.J., Spowage, M., and Hunneyball, I.M. *Drugs Exp. Clin. Res.* **13(5)**, 273-277 (1987).

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