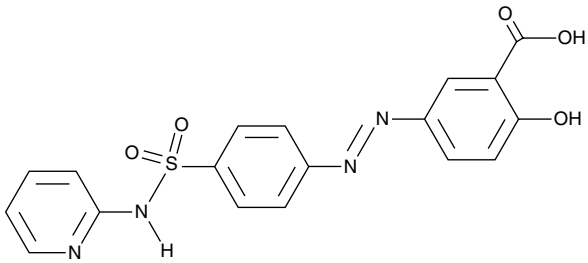
Product Information

Sulfasalazine

Item No. 15025

Sold for research purposes under agreement from Pfizer Inc.

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%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 355 nm



Laboratory Procedures

For long term storage, we suggest that sulfasalazine be stored as supplied at -20°C. It should be stable for at least two years.

Sulfasalazine is supplied as a crystalline solid. A stock solution may be made by dissolving the sulfasalazine in the solvent of choice. Sulfasalazine is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of sulfasalazine in these solvents is approximately 30 mg/ml.

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.

Sulfasalazine is a prodrug of the anti-inflammatory agent 5-aminosalicylic acid that is covalently linked to the antibiotic sulfapyridine by an azo bond. This bond is rapidly cleaved by bacteria in the terminal ileum and colon, thus releasing the active anti-inflammatory component.[1] It has long been used in treatment of inflammatory bowel disease and rheumatoid arthritis because of its ability to induce T lymphocyte apoptosis, modulate inflammatory mediators from both cyclooxygenase/5-lipoxygenase pathways and NF-κB signaling pathways, attenuate transcription of proinflammatory cytokines, and activate PPARγ.[1-3]

References

1. Jiang, G.-L., Im, W.B., Donde, Y., *et al.* Comparison of prostaglandin E_2 receptor subtype 4 agonist and sulfasalazine in mouse colitis prevention and treatment. *J. Pharmacol. Exp. Ther.* **335(3)**, 546-552 (2010).
2. Wahl, C., Liptay, S., Adler, G., *et al.* Sulfasalazine: a Potent and Specific Inhibitor of Nuclear Factor Kappa B. *J. Clin. Invest.* **101(5)**, 1163-1174 (1997).
3. Jiang, G.-L., Im, W.B., Donde, Y., *et al.* Comparison of prostaglandin E_2 receptor subtype 4 agonist and sulfasalazine in mouse colitis prevention and treatment. *J. Pharmacol. Exp. Ther.* **335(3)**, 546-552 (2010).

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