

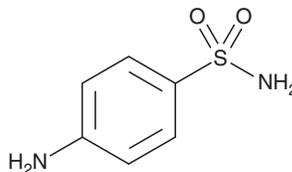
# PRODUCT INFORMATION



## Sulfanilamide

Item No. 23723

**CAS Registry No.:** 63-74-1  
**Formal Name:** 4-amino-benzenesulfonamide  
**Synonyms:** 4-Aminobenzenesulfonamide,  
*p*-Aminobenzenesulfonamide,  
NSC 7618, Ro 1-3354  
**MF:** C<sub>6</sub>H<sub>8</sub>N<sub>2</sub>O<sub>2</sub>S  
**FW:** 172.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 264 nm  
**Supplied as:** A solid  
**Storage:** 4°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Sulfanilamide is supplied as a solid. A stock solution may be made by dissolving the sulfanilamide in the solvent of choice. Sulfanilamide is slightly soluble in organic solvents such as DMSO and methanol, which should be purged with an inert gas. Sulfanilamide is also slightly soluble in water.

### Description

Sulfanilamide is a sulfonamide antibiotic.<sup>1</sup> It is bacteriostatic against *Streptococcus* when used at a concentration of 20 µg/ml and inhibits the growth of 106 clinical isolates of *Gonococcus* at 0.01% v/v.<sup>1,2</sup> Sulfanilamide reduces plasma levels of *Streptococcus* in infected rabbits.<sup>3</sup> It is an inhibitor of carbonic anhydrase II (CAII) and CAIX (K<sub>i</sub>s = 294 and 300 nM, respectively, for the human enzymes).<sup>4</sup> It is selective for CAII and CAIX over CAI and CAIV (K<sub>i</sub>s = 3000 and >10,000 nM, respectively, for the bovine and human enzymes). Sulfanilamide inhibits the growth of *S. haemolyticus* and *E. coli* when used at a concentration of 300 µM.<sup>5</sup> Formulations containing sulfanilamide have been used in the topical treatment of vaginal fungal infections.

### References

1. White, H.J., and Parker, J.M. The bactericidal effect of sulfanilamide upon beta hemolytic streptococci *in vitro*. *J. Bacteriol.* **36**(5), 481-498 (1938).
2. Carpenter, C.M. and Wingate, H.F. The "Sulfanilamide Death Time" *in vitro* of 106 strains of the *Gonococcus*. *J. Bacteriol.* **41**(4), 473-478 (1941).
3. Gay, F.G., and Clark, A.R. On the mode of action of sulfanilamide in experimental streptococcus empyema. *J. Exp. Med.* **66**(5), 535-548 (1937).
4. Vullo, D., Franchi, M., Gallori, E., *et al.* Carbonic anhydrase inhibitors: Inhibition of the tumor-associated isozyme IX with aromatic and heterocyclic sulfonamides. *Bioorg. Med. Chem. Lett.* **13**(6), 1005-1009 (2003).
5. McIlwain, H. The biochemical specificity of sulfanilamide and of other antibacterial agents. *Science* **95**(2472), 509-511 (1942).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM