

Product Data Sheet

Product Name: Sulfanilamide

Cat. No.: GC15626

Chemical Properties

Cas. No. 63-74-1

Chemical Name 4-aminobenzenesulfonamide

SMILES C1=CC(=CC=C1N)S(=O)(=O)N

Formula C₆H₈N₂O₂S

M.Wt 172.2

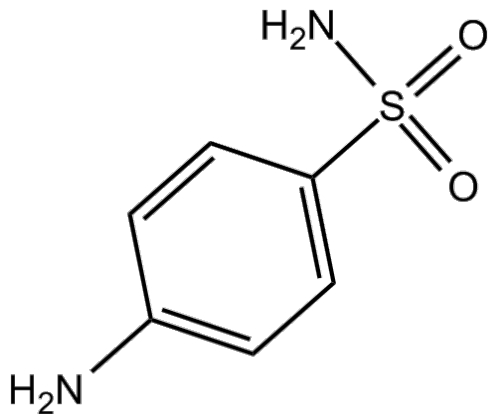
Solubility ≥ 7.7mg/mL in DMSO

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Sulfanilamide is a competitive inhibitor for bacterial enzyme dihydropteroate synthetase with IC₅₀ of 320 μM. Target: dihydropteroate synthetase; Antibacterial Sulfanilamide containing the sulfonamide functional group displays inhibitory activity for dihydropteroate synthetase partially purified from Escherichia coli which normally uses para-aminobenzoic acid (PABA) for synthesizing the necessary folic acid acting as a coenzyme in the synthesis of purine, pyrimidine and other amino acids, exhibiting an IC₅₀ of 320 μM for dihydropteroate synthetase and K_m of 2.5 μM for PABA [1].

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Sulfanilamide shows IC₅₀ of 286.8 µg/mL for recombinant *S. cerevisiae* strains with wild-type FOL1 genes, but the single mutation 55Trp to 55Ala or 57Pro to 57Ser within the putative active site of the fungal DHPS confers resistance to Sulfanilamide with IC₅₀ of >800 µg/mL [2]. Administration of Sulfanilamide with the dosage of 100 mg/kg/day is effective in the prevention of *P. carinii* infection in the immunosuppressed rat model. When the dosage of sulfaguanidine and Sulfanilamide reduced to 10 mg/kg/day, breakthrough *P. carinii* infection occurs in the rats [3].

References:

- [1]. McCullough, J.L. and T.H. Maren, Inhibition of dihydropteroate synthetase from *Escherichia coli* by sulfones and sulfonamides. *Antimicrob Agents Chemother*, 1973. 3(6): p. 665-9.
- [2]. Meneau, I., et al., *Pneumocystis jiroveci* dihydropteroate synthase polymorphisms confer resistance to sulfadoxine and sulfanilamide in *Saccharomyces cerevisiae*. *Antimicrob Agents Chemother*, 2004. 48(7): p. 2610-6.
- [3]. Hughes, W.T. and J. Killmar, Monodrug efficacies of sulfonamides in prophylaxis for *Pneumocystis carinii* pneumonia. *Antimicrob Agents Chemother*, 1996. 40(4): p. 962-5.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA