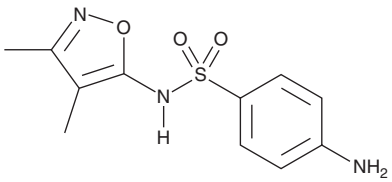
PRODUCT INFORMATION

Sulfisoxazole

Item No. 25980

CAS Registry No.: 127-69-5
Formal Name: 4-amino-N-(3,4-dimethyl-5-isoxazolyl)-benzenesulfonamide
Synonyms: NSC 13120, NSC 33807, NSC 38588, NSC 683536, Sulfafurazole
MF: $C_{11}H_{13}N_3O_3S$
FW: 267.3
Purity: ≥98%
Supplied as: A 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

Sulfisoxazole is supplied as a solid. A stock solution may be made by dissolving the sulfisoxazole in the solvent of choice, which should be purged with an inert gas. Sulfisoxazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sulfisoxazole in ethanol is approximately 1 mg/ml and approximately 50 mg/ml in DMSO and DMF.

Sulfisoxazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sulfisoxazole should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Sulfisoxazole has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sulfisoxazole is a sulfonamide antibiotic and nonpeptide endothelin (ET) receptor antagonist (IC_{50}s = 0.6 and 22 µM for the ET_A and ET_B receptors, respectively).[1,2] It inhibits the growth of Gram-positive and Gram-negative bacteria *in vitro*, including *S. pneumoniae*, *B. subtilis*, *S. epidermidis*, *E. coli*, and *K. pneumoniae* (MICs = 1.95, 0.98, 7.81, 62.5, and 7.81 µg/mL, respectively).[3] Sulfisoxazole inhibits phosphoinositide turnover stimulated by endothelin-1 (ET-1; Item No. 24127) in TE671 cells. It inhibits ET-induced contraction of rat pulmonary artery rings *ex vivo* when used at concentrations of 0.1 and 1 mM.[2] Sulfisoxazole (1,000 mg/kg per day) reduces atrial natriuretic peptide levels in myocytes and plasma and increases survival in a rat model of pulmonary hypertension induced by monocrotaline (MCT; Item No. 16666) as well as blocks MCT-induced increases in pulmonary artery blood pressure when administered at doses of 300 and 1,000 mg/kg.

References

1. Chan, M.F., Okun, I., Stavros, F.L., *et al.* Identification of a new class of ET_A selective endothelin antagonists by pharmacophore directed screening. *Biochem. Bioph. Res. Commun.* **201(1)**, 228-234 (1994).
2. Uchino, T., Sanyal, S.N., Yamabe, M., *et al.* Rescue of pulmonary hypertension with an oral sulfonamide antibiotic sulfisoxazole by endothelin receptor antagonistic actions. *Hypertens. Res.* **31(9),** 1781-1790 (2008).
3. Nasr, T., Bondock, S., and Eid, S. Design, synthesis, antimicrobial evaluation and molecular docking studies of some new thiophene, pyrazole and pyridone derivatives bearing sulfisoxazole moiety. *Eur. J. Med. Chem.* **84**, 491-504 (2014).

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