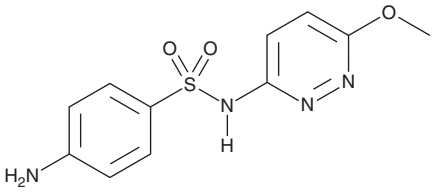
PRODUCT INFORMATION

Sulfamethoxypyridazine

Item No. 21875

CAS Registry No.:	80-35-3
Formal Name:	4-amino-N-(6-methoxy-3-pyridazinyl)-benzenesulfonamide
MF:	$C_{11}H_{12}N_4O_3S$
FW:	280.3
Purity:	≥95%
UV/Vis.:	λ_{max}: 269 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

Sulfamethoxypyridazine is supplied as a crystalline solid. A stock solution may be made by dissolving the sulfamethoxypyridazine in the solvent of choice, which should be purged with an inert gas. Sulfamethoxypyridazine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sulfamethoxypyridazine in ethanol is approximately 0.3 mg/ml and approximately 50 mg/ml in DMSO and DMF.

Sulfamethoxypyridazine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sulfamethoxypyridazine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Sulfamethoxypyridazine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sulfamethoxypyridazine is a sulfonamide antibiotic that inhibits the growth of Gram-negative bacteria and other microorganisms.[1-4] It inhibits recombinant *P. carinii* dihydropteroate synthase (DHPS; IC_{50} = 17 nM) and folate biosynthesis in *P. carinii* by 75% when used at a concentration of 50 nM.[1] Sulfamethoxypyridazine (0.25 mg/ml) inhibits any visible growth in culture tubes of 378 out of 530 *E. coli* isolates from necropsied animals and poultry.[2] It also decreases the number of viable amoxicillin-induced *B. burgdorferi* round body forms to 30% of control when used at a concentration of 50 µM.[3] *In vivo*, sulfamethoxypyridazine decreases the number of *P. carinii* trophozoite and cyst lesions in lung tissue in a mouse model of pneumonia infection (ED_{50}s = 0.06 and 0.08 mg/kg per day, respectively).[4]

References

1. Hong, Y.-L., Hossler, P.A., Calhoun, D.H., *et al.* Inhibition of recombinant *Pneumocystis carinii* dihydropteroate synthetase by sulfa drugs. *Antimicrob. Agents Chemother.* **39(8)**, 1756-1763 (1995).
2. Glantz, P.J. In vitro sensitivity of *Escherichia coli* to sulfonamides. *Cornell Vet.* **55**, 9-18 (1965).
3. Feng, J., Shi, W., Zhang, S., *et al.* A drug combination screen identifies drugs active against amoxicillin-induced round bodies of *in vitro Borrelia burgdorferi* persisters from an FDA drug library. *Front. Microbiol.* 7:743, (2016).
4. Bartlett, M.S., Shaw, M.M., Smith, J.W., *et al.* Efficacy of sulfamethoxypyridazine in a murine model of Pneumocystis carinii pneumonia. *Antimicrob. Agents Chemother.* **42(4)**, 934-935 (1998).

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