

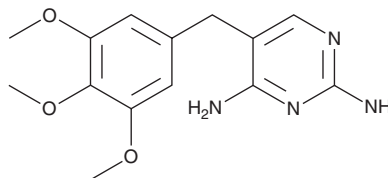
# PRODUCT INFORMATION



## Trimethoprim

Item No. 16473

**CAS Registry No.:** 738-70-5  
**Formal Name:** 5-[(3,4,5-trimethoxyphenyl)methyl]-  
2,4-pyrimidinediamine  
**Synonyms:** NIH 204, NSC 106568  
**MF:** C<sub>14</sub>H<sub>18</sub>N<sub>4</sub>O<sub>3</sub>  
**FW:** 290.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 287 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

Trimethoprim is supplied as a crystalline solid. A stock solution may be made by dissolving the trimethoprim in the solvent of choice, which should be purged with an inert gas. Trimethoprim is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of trimethoprim in these solvents is approximately 20 and 13 mg/ml, respectively.

Trimethoprim is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, trimethoprim should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Trimethoprim 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

Trimethoprim is a synthetic antibiotic that inhibits dihydrofolate reductase (DHFR), which is necessary for the synthesis of purines, amino acids, and thymidylic acid.<sup>1,2</sup> Trimethoprim shows prominent selectivity for bacterial DHFR over mammalian DHFR (IC<sub>50</sub>s = 5 and 30,000 nM, respectively).<sup>2</sup> Formulations containing trimethoprim, commonly used in combination with sulfamethoxazole to minimize acquired resistance, have been used in the treatment of urinary tract infections.

### References

1. Lam, T., Hilgers, M.T., Cunningham, M.L., *et al.* Structure-based design of new dihydrofolate reductase antibacterial agents: 7-(Benzimidazol-1-yl)-2,4-diaminoquinazolines. *J. Med. Chem.* **57(3)**, 651-668 (2014).
2. Schweitzer, B.I., Dicker, A.P., and Bertino, J.R. Dihydrofolate reductase as a therapeutic target. *FASEB J.* **4(8)**, 2441-2452 (1990).

#### 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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