



Cotrimoxazole, Ready Made Solution

100 mg/mL in DMSO

Synonym: Trimethoprim-Sulfamethoxazole, TMP-SMX

CAS Number 8064-90-2 Empirical Formula (Hill Notation) C₁₄H₁₈N₄O₃ · 5 C₁₀H₁₁N₃O₃S Molecular Weight 1556.71

Properties

form	liquid
concentration	100 mg/mL in DMSO
antibiotic activity spectrum	Gram-negative bacteria
	Gram-positive bacteria
	molds
	parasites
shipped in	dry ice
storage temp.	-20°C

Description

Preparation Note

prepared using a 1:5 mixture of trimethoprim:sulfamethoxazole

Biochem/physiol Actions

Cotrimoxazole, a combination of trimethoprim and sulfamethoxazole, interferes with the cellular metabolism of folic acid in the bacterial cell by blocking the biosynthesis of nucleotides. Trimethoprim binds to dihydrofolate reductase (DHFR) which inhibits the reduction of dihydrofolic acid (DHF) to tetrahydrofolic acid (THF), resulting in an antimicrobial effect. Sulfamethoxazole interferes with the synthesis of nucleic acids in sensitive microorganisms by blocking the conversion of p-aminobenzoic acid to the coenzyme dihydrofolic acid. The net effect of these actions is to inhibit thymidine synthesis which prevents bacterial DNA synthesis.