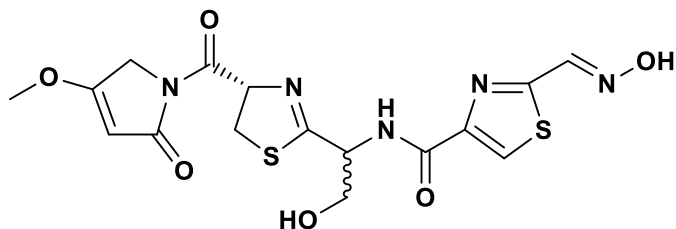


PRODUCT DATA SHEET

Althiomycin



Synonyms: Matamycin

Specifications

Code No.	: 14660
CAS#	: 12656-40-5
Molecular Formula	: C ₁₆ H ₁₇ N ₅ O ₆ S ₂
Molecular Weight	: 439.461
Source	: <i>Streptomyces althioticus</i> No. 245-Z2
Appearance	: White crystals
Purity	: > 98% (HPLC)
Long Term Storage	: at - 20 °C
Solubility	: Soluble in ethyl cellosolve, pyridine, DMSO. Poorly soluble in MeOH, EtOAc, acetone. Insoluble in H ₂ O.

Application Notes

Althiomycin is a sulfur containing peptide antibiotic obtained from *Streptomyces althioticus* No. 245-Z2.¹⁻³ It is active against both Gram-positive and -negative bacteria such as *Streptococcus pneumoniae*, *Bacillus anthracis*, *Escherichia coli* and *Salmonella Typhi*.¹ It shows low toxicity in mice.¹ Althiomycin inhibits protein synthesis in both intact cells and cell-free system of *E. coli*.⁴ Althiomycin inhibits the puromycin reaction without showing any inhibition against aminoacyl-tRNA synthesis and binding of aminoacyl-tRNA to ribosomes.⁴ Total synthesis of althiomycin and activity of its derivatives have been studied.^{5,6}

References

- 1) A new antibiotic, althiomycin. Yamaguchi H, *et al. J Antibiot.* 1957 **10**(5) 195-200.
- 2) The structure of althiomycin. Sakakibara H, *et al. J Antibiot.* 1974 **27**(11) 897-899.
- 3) The structure of althiomycin. Kirst H A, *et al. J Antibiot.* 1975 **28**(4) 286-291.
- 4) Studies on the mode of action of althiomycin. Fujimoto H, *et al. J Antibiot.* 1970 **23**(6) 271-275.
- 5) Total synthesis and semi-synthetic approaches to analogues of antibacterial natural product althiomycin. Zarantonello P, *et al. Bioorg Med Chem Lett.* 2002 **12**(4) 561-565.
- 6) Total synthesis of antibiotic althiomycin. Inami K, *et al. Bull Chem Soc Jpn.* 1985 **58**(1) 352-360.