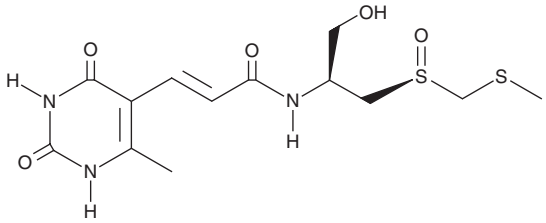
PRODUCT INFORMATION

Sparsomycin

Item No. 29934

CAS Registry No.: 1404-64-4
Formal Name: (2E)-N-[(1S)-1-(hydroxymethyl)-2-[(R)-[(methylthio)methyl]sulfinyl]ethyl]-3-(1,2,3,4-tetrahydro-6-methyl-2,4-dioxo-5-pyrimidinyl)-2-propenamide
Synonyms: NSC 059729, NSC 59729, (+)-Sparsomycin, U-19183
MF: $C_{13}H_{19}N_3O_5S_2$
FW: 361.4
Purity: ≥95%
UV/Vis.: λ_{max}: 304 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Bacterium/*Streptomyces* sp.



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Sparsomycin is supplied as a solid. A stock solution may be made by dissolving the sparsomycin in the solvent of choice, which should be purged with an inert gas. Sparsomycin is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide.

Description

Sparsomycin is a bacterial metabolite and a nucleoside analog of uracil that has been found in *S. sparsogenes* and has diverse biological activities.[1-3] It is active against KB carcinoma cells, Gram-positive and Gram-negative bacteria, and fungi.[4] Sparsomycin is an inhibitor of peptidyl transferase that interferes with tRNA binding to the A-site of the peptidyl transfer center and increases the binding of peptidyl-tRNA to the P-site.[2] It inhibits protein synthesis in bacteria, archaea, and eukaryotes.[2,3] Sparsomycin reduces tumor growth in a P388 mouse leukemia model and in a Walker 256 carcinosarcoma rat model.[5]

References

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2. Wilson, D.N. The A-Z of bacterial translation inhibitors. *Crit. Rev. Biochem. Mol. Biol.* **44(6)**, 393-433 (2009).
3. Lazaro, E., Van den Broek, L.A., San Felix, A., *et al.* Chemical, biochemical and genetic endeavours characterizing the interaction of sparsomycin with the ribosome. *Biochimie* **73(7-8)**, 1137-1143 (1991).
4. Owen, S.P., Dietz, A., and Camiener, G.W. Sparsomycin, a new antitumor antibiotic. I. Discovery and biological properties. *Antimicrob. Agents Chemother.* **1962**, 772-779 (1963).
5. Zylicz, Z., Wagener, D.J., van Rennes, H., *et al. In vivo* antitumor activity of sparsomycin and its analogues in eight murine tumor models. *Invest. New Drugs* **6(4)**, 285-292 (1988).

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