

PRODUCT INFORMATION



Chlorothricin

Item No. 15501

CAS Registry No.: 34707-92-1

Formal Name: (4S,4aS,6aR,11E,12aR,15R,16aS,21aR,21bR)-4-[[[4-O-[3-O-(3-chloro-6-methoxy-2-methylbenzoyl)-2,6-dideoxy-β-D-arabino-hexopyranosyl]-2,6-dideoxy-β-D-arabino-hexopyranosyl]oxy]-1,2,3,4,4a,6a,7,8,9,10,12a,15,16,21,21a,21b-hexadecahydro-22-hydroxy-15,21a-dimethyl-18,21-dioxo-18H-16a, 19-metheno-16aH-benzo[e]naphtho[2,1-m][1,4]dioxacyclopentadecin-14-carboxylic acid

Synonym: Antibiotic K 818A

MF: C₅₀H₆₃ClO₁₆

FW: 955.5

Purity: ≥99%

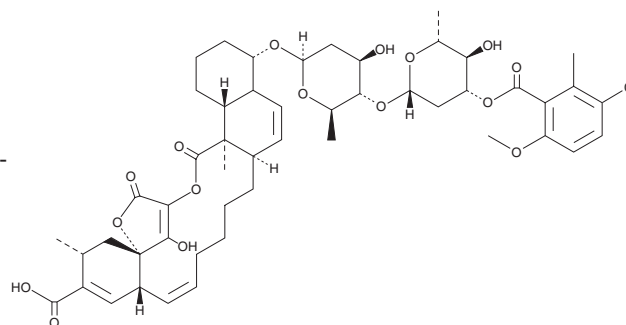
Supplied as: A solid

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

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

Description

Chlorothricin is a macrolide-type antibiotic that inhibits pyruvate carboxylases from *Bacillus*, *Azotobacter*, rat, and chicken, preventing the conversion of pyruvate to oxaloacetate (K_i or IC_{50} = 173, 500, 260, and 120 μ M, respectively).¹⁻² Chlorothricin also inhibits malate dehydrogenases MDH1 (cytoplasmic) and MDH2 (mitochondrial) from pig heart (IC_{50} s = 1.3 and 0.065 mM, respectively), preventing the oxidation of malate to oxaloacetate.³

References

1. Schindler, P.W. and Zähler, H. Mode of action of the macrolide-type antibiotic, chlorothricin. Kinetic study of the inhibition of pyruvate carboxylase from *Bacillus stearothermophilus*. *Eur. J. Biochem.* **39(2)**, 591-600 (1973).
2. Schindler, P.W. and Scrutton, M.C. Mode of action of the macrolide-type antibiotic, chlorothricin. Effect of the antibiotic on the catalytic activity and some structural parameters of pyruvate carboxylases purified from rat and chicken liver. *Eur. J. Biochem.* **55(3)**, 543-553 (1975).
3. Schindler, P.W. Chlorothricin, and inhibitor of porcine-heart malate dehydrogenases, discriminating between the mitochondrial and cytoplasmic isoenzyme. *Eur. J. Biochem.* **51(2)**, 579-585 (1975).

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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