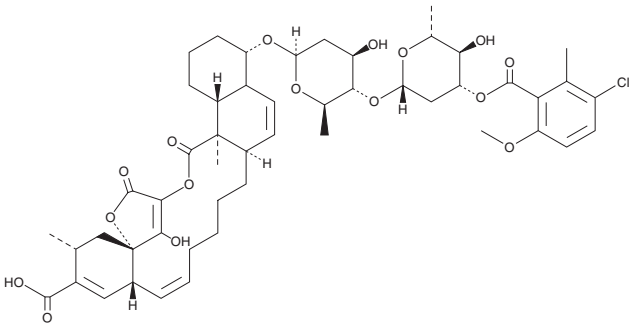
PRODUCT INFORMATION

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: $C_{50}H_{63}ClO_{16}$
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 µM, 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 Zähner, 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).

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