

Product Data Sheet

Product Name: Tetracycline Hydrochloride

Cat. No.: GC15020

Chemical Properties

Cas. No. 64-75-5

Chemical Name (4S,4aS,5aS,6S,12aR)-4-(dimethylamino)-1,6,10,11,12a-pentahydroxy-6-methyl-3,12-dioxo-4,4a,5,5a-tetrahydrotetracene-2-carboxamide;hydrochloride

SMILES CC1(C2CC3C(C(=O)C(=C(C3(C(=O)C2=C(C4=C1C=CC=C4O)O)O)O)C(=O)N)N(C)C)O.Cl

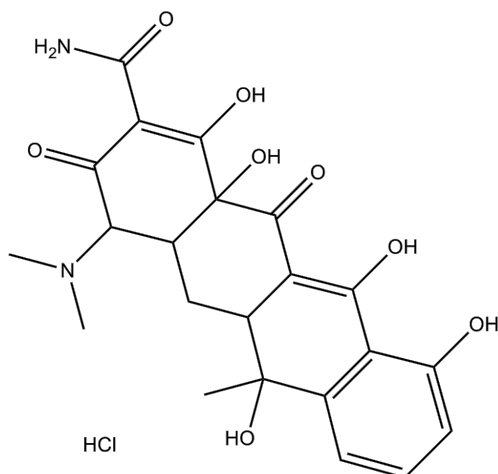
Formula $C_{22}H_{25}ClN_2O_8$ M.Wt 480.9

Solubility ≥ 12.02 mg/mL in DMSO with gentle warming, ≥ 57.7 mg/mL in Water Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Tetracycline (hydrochloride) is a broad-spectrum antibiotic, exhibiting activity against a wide range of gram-positive and gram-negative bacteria.

Caution: Product has not been fully validated for medical applications. For research use only.

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Tetracyclines are broad-spectrum agents, exhibiting activity against a wide range of gram-positive and gram-negative bacteria, atypical organisms such as chlamydiae, mycoplasmas, and rickettsiae, and protozoan parasites. Tetracyclines inhibit bacterial protein synthesis by preventing the association of aminoacyl-tRNA with the bacterial ribosome. Tetracyclines traverse the outer membrane of gram-negative enteric bacteria through the OmpF and OmpC porin channels, as positively charged cation (probably magnesium)-tetracycline coordination complexes [1].

The tetracyclines have applications for the treatment of infections in poultry, cattle, sheep, and swine. In some cases, e.g., for therapeutic treatment of large numbers of poultry reared on commercial farms, the antibiotics are added directly to feed or water or can be administered in aerosols. Tetracyclines could be used as growth promotion or growth enhancement. Tetracyclines are used in aquaculture to control infections in salmon, catfish, and lobsters[2].

References:

[1]. Chopra I, et al. Tetracycline antibiotics: mode of action, applications, molecular biology, and epidemiology of bacterial resistance. *Microbiol Mol Biol Rev.* 2001 Jun;65(2):232-60

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