

PRODUCT INFORMATION

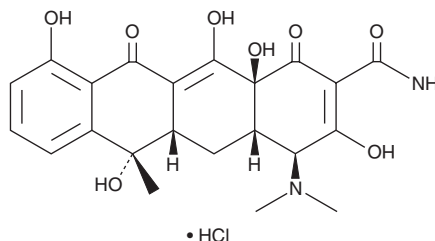


Tetracycline (hydrochloride)

Item No. 14328

CAS Registry No.: 64-75-5
Formal Name: (4S,4aS,5aS,6S,12aS)- 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacene-carboxamide, monohydrochloride

MF: C₂₂H₂₄N₂O₈ • HCl
FW: 480.9
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 268, 348, 361 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Tetracycline (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the tetracycline (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Tetracycline (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of tetracycline (hydrochloride) in these solvents is approximately 1 and 1.4 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of tetracycline (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of tetracycline (hydrochloride) in PBS (pH 7.2) is approximately 3.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tetracycline is a broad-spectrum antibiotic that prevents bacterial growth by inhibiting protein synthesis. It binds to a single site in the 30S ribosomal subunit which prevents attachment of aminoacyl tRNA to the ribosomal acceptor site.¹ It is used in cell biology as a selective agent in cell culture systems. Tetracycline is toxic to prokaryotic and eukaryotic cells and selects for cells harboring the bacterial tetR gene, which are resistant to the antibiotic.²

References

1. Wilson, D.N. The A-Z of bacterial translation inhibitors. *Crit. Rev. Biochem. Mol. Biol.* **44(6)**, 393-433 (2009).
2. Degenkolb, J., Takahashi, M., Ellestad, G.A., *et al.* Structural requirements of tetracycline-Tet repressor interaction: Determination of equilibrium binding constants for tetracycline analogs with the Tet repressor. *Antimicrob. Agents Chemother.* **35(8)**, 1591-1595 (1991).

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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