

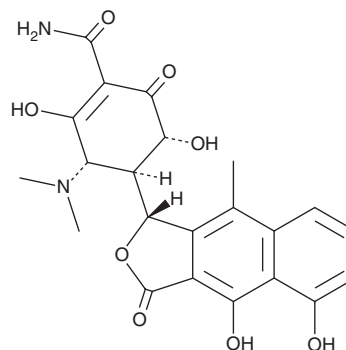
PRODUCT INFORMATION



β -Apooxytetracycline

Item No. 27099

CAS Registry No.: 18751-99-0
Formal Name: (3S,4S,5R)-4-[[3(R)-1,3-dihydro-4,5-dihydroxy-9-methyl-3-oxonaphtho[2,3-c]furan-1-yl]-3-(dimethylamino)-2,5-dihydroxy-6-oxo-1-cyclohexene-1-carboxamide
Synonyms: β -Apo-Oxytetracycline, β -Apoterramycin
MF: C₂₂H₂₂N₂O₈
FW: 442.4
Purity: \geq 98%
UV/Vis.: λ_{max} : 215, 244, 321, 373 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

β -Apooxytetracycline is supplied as a crystalline solid. A stock solution may be made by dissolving the β -apooxytetracycline in the solvent of choice, which should be purged with an inert gas. β -Apooxytetracycline is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of β -apooxytetracycline in these solvents is approximately 5, 20, and 12 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 β -apooxytetracycline can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of β -apooxytetracycline in PBS, pH 7.2, is approximately 0.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

β -Apooxytetracycline is a potential impurity found in commercial preparations of oxytetracycline.¹ β -Apooxytetracycline is a degradation product formed from oxytetracycline (Item No. 18076) via acid hydrolysis. It has a relative potency of 0.1 compared with oxytetracycline for inhibiting the growth of aerobic sludge bacteria, an MIC₅₀ value of 32 mg/L for tetracycline-sensitive strains of *Pseudomonas*, and MIC₅₀ values of greater than 32 mg/L for tetracycline-sensitive strains of *Agrobacterium*, *Moraxella*, and *Bacillus*, as well as tetracycline-resistant strains of *E. coli*.² β -Apooxytetracycline (10 mg/kg) is toxic to rats, decreasing body weight, disrupting blood cell counts, and inducing hepatocyte necrosis.³

References

1. Lykkberg, A.K., Halling-Sørensen, B., Cornett, C., *et al.* Quantitative analysis of oxytetracycline and its impurities by LC-MS-MS. *J. Pharm. Biomed. Anal.* **34**(2), 325-332 (2004).
2. Halling-Sørensen, B., Sengeløv, G., and Tjørnelund, J. Toxicity of tetracyclines and tetracycline degradation products to environmentally relevant bacteria, including selected tetracycline-resistant bacteria. *Arch. Environ. Contam. Toxicol.* **42**(3), 263-271 (2002).
3. Hue, N.V., Toan, N.V., Long, L.T., *et al.* Preliminary studies on the toxic effects of degradation products of oxytetracycline and chlortetracycline on rats. *J. Ag. Sci. Technol. A. B.* **5**, 469-474 (2015).

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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