



Product Information

Product ID T1679

CAS No. 64-75-5

Chemical Name [4S-(4 α , 4 α , 5 α , 6 β , 12 α)]-4-(Dimethylamino)- 1,4,4a,5,5a,6-11,12a-octahydro-3,6,10,12,12a-penta- hydroxy-6-methyl-1,11-dioxo-2-naphthacene- carboxamide hydrochloride

Synonym Achromycin, Panmycin, Topicycline, Cylcopar, Diocyclin

Formula C₂₂H₂₄N₂O₈ · HCl

Formula Wt. 480.90

Melting Point 220-223 °C

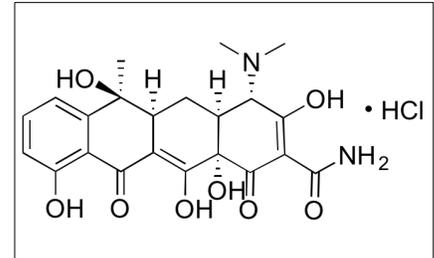
Purity ≥96%

Solubility Soluble in water (100 mg/mL), methanol and ethanol (10 mg/mL). Insoluble in ether and hydrocarbons

Store Temp 4 °C

Ship Temp Ambient

Description Tetracycline is a polyketide antibiotic originally produced by *Streptomyces* that exhibits antibacterial and neuroprotective activities. Tetracycline binds the 30S subunit of the bacterial ribosome, preventing aminoacyl-tRNA from binding to the ribosomal A site and inhibiting protein synthesis. Tetracycline is clinically used to treat acne, rosacea, Lyme disease, and various bacterial infections. Tetracycline binds amyloid- β (AB) peptides, increasing their solubility and decreasing their neurotoxicity in vitro. Tetracycline may also inhibit matrix metalloproteinases (MMPs). Additionally, tetracycline inhibits mammalian RNA splicing.



Bulk quantities available upon request

| Product ID | Size |
|------------|-------|
| T1679 | 1 g |
| T1679 | 5 g |
| T1679 | 25 g |
| T1679 | 100 g |

References Kennedy R, Alibhai M, Shakib K. Tetracycline: a cure all? Br J Oral Maxillofac Surg. 2014 Apr;52(4):382-3. PMID: 24613100.

Mahajan GB, Balachandran L. Antibacterial agents from actinomycetes - a review. Front Biosci (Elite Ed). 2012 Jan 1;4:240-53. PMID: 22201868.

Airoldi C, Colombo L, Manzoni C, et al. Tetracycline prevents AB oligomer toxicity through an atypical supramolecular interaction. Org Biomol Chem. 2011 Jan 21;9(2):463-72. PMID: 21063627.

Griffin MO, Fricovsky E, Ceballos G, et al. Tetracyclines: a pleiotropic family of compounds with promising therapeutic properties. Review of the literature. Am J Physiol Cell Physiol. 2010 Sep;299(3):C539-48. PMID: 20592239.

Hertweck M, Hiller R, Mueller MW. Inhibition of nuclear pre-mRNA splicing by antibiotics in vitro. Eur J Biochem. 2002 Jan;269(1):175-83. PMID: 11784311.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.