



LKT Laboratories, Inc.

## Tetracycline

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### Product Information

**Product ID** T1677

**CAS No.** 60-54-8

**Chemical Name** [4S-(4 $\alpha$ ,4 $\alpha$ ,5 $\alpha$ ,6 $\beta$ ,12 $\alpha$ )]-4-(Dimethylamino)-1,4,4 $\alpha$ ,5,5 $\alpha$ ,6-11,12 $\alpha$ -octahydro-3,6,10,12,12 $\alpha$ -pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide

**Synonym** Deschlorobiomycin, Ambramycin, Liguamycin

**Formula** C<sub>22</sub>H<sub>24</sub>N<sub>2</sub>O<sub>8</sub>

**Formula Wt.** 444.43

**Melting Point** 170-175°C(dec)

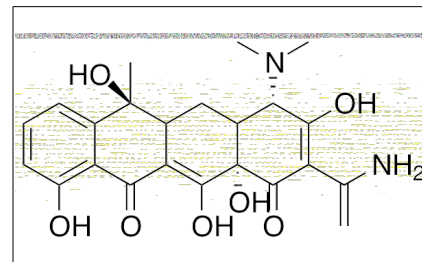
**Purity** ≥90%

**Solubility** Soluble in methanol or ethanol (20 mg/mL). Slightly soluble in water (0.4 mg/mL).

**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- $\beta$  (A $\beta$ ) 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
T1677	10 g
T1677	25 g
T1677	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.

Airolidi C, Colombo L, Manzoni C, et al. Tetracycline prevents A $\beta$  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.