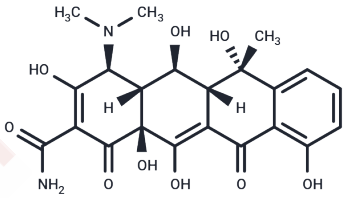
Data Sheet (Cat.No.T0895)

TargetMol

Oxytetracycline

Chemical Properties



CAS No. : 79-57-2

Formula: C22H24N2O9

Molecular Weight: 460.43

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Oxytetracycline (Terramycin) is a TETRACYCLINE analog isolated from the actinomycete STREPTOMYCES rimosus and used in a wide variety of clinical conditions.
Targets(IC50)	ribosome,Endogenous Metabolite,Antibacterial,Antibiotic,HSV
In vivo	Oxytetracycline (200 mg/kg for 15 days) results a significant elevation in serum hepatospecific markers such as aspartate transaminase, alanine transaminase, alkaline phosphatase, lactate dehydrogenase, and bilirubin and the levels of lipid peroxidation markers (thiobarbituric acid reactive substances (TBARS) and lipid hydroperoxides) in rat liver. Oxytetracycline also causes a significant reduction in the activities of superoxide dismutase, catalase, glutathione peroxidase, reduced glutathione (GSH), vitamin C and vitamin E in rat liver. Oxytetracycline (200 mg/kg) combined with Naringenin (50 mg/kg b.w.t.) significantly decreases the activities of serum aspartate transaminase, alanine transaminase, alkaline phosphatase, lactate dehydrogenase and the levels of bilirubin along with significant decrease in the levels of lipid peroxidation markers in the rat liver. [1] Oxytetracycline (200 mg/kg, oral for 15 days) produces hepatic damage as manifested by a significant increase in serum hepatic markers namely aspartate transaminase (AST), alanine transaminase (ALT), alkaline phosphatase (ALP), lactate dehydrogenase (LDH), bilirubin and increases plasma and hepatic lipid peroxidation indices (TBARS and hydroperoxide) in rats. Oxytetracycline significantly decreases the levels of enzymatic antioxidants namely superoxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPx). [2]

Solubility Information

Solubility	DMSO: 90 mg/mL (195.47 mM),Sonication is recommended. Ethanol: 10 mg/mL (21.72 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (7.17 mM),Sonication is recommended. 10% DMSO+90% Saline: 10 mg/mL (21.72 mM),Suspension. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1719 mL	10.8594 mL	21.7188 mL
5 mM	0.4344 mL	2.1719 mL	4.3438 mL
10 mM	0.2172 mL	1.0859 mL	2.1719 mL
50 mM	0.0434 mL	0.2172 mL	0.4344 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Pari L, et al. Basic Clin Pharmacol Toxicol, 2006, 98(5), 456-461.
Khan K Y, Ali B, Zhang S, et al. Effects of antibiotics stress on growth variables, ultrastructure, and metabolite pattern of Brassica rapa ssp. Chinensis. Science of The Total Environment. 2021 Jul 15;778:146333. doi: 10.1016/j.scitotenv.2021.146333. Epub 2021 Mar 11.
Khan K Y, Ali B, Zhang S, et al. Phytotoxic effects on chloroplast and UHPLC-HRMS based untargeted metabolomic responses in Allium tuberosum Rottler ex Sprengel (Chinese leek) exposed to antibiotics. Ecotoxicology and Environmental Safety. 2022, 234: 113418.
Jayanthi R, et al. Indian J Clin Biochem, 2010, 25(4), 371-375.
Idris S B, Kadir A A, Abdullah J F F, et al. Pharmacokinetics of Free Oxytetracycline and Oxytetracycline Loaded Cockle Shell Calcium Carbonate-Based Nanoparticle in BALB/c Mice[J]. Frontiers in Veterinary Science. 2020, 7.
Idris S B, Kadir A A, Abdullah J F F, et al. Pharmacokinetics of Free Oxytetracycline and Oxytetracycline Loaded Cockle Shell Calcium Carbonate-Based Nanoparticle in BALB/c Mice. Frontiers in Veterinary Science. 2020, 7
Khan K Y, Ali B, Zhang S, et al. Effects of antibiotics stress on growth variables, ultrastructure, and metabolite pattern of Brassica rapa ssp. Chinensis[J]. Science of The Total Environment. 2021: 146333.