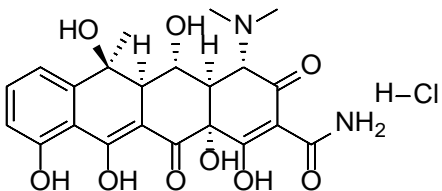


# Product data sheet



MedKoo Cat#: 318450 Name: Oxytetracycline Hydrochloride CAS: 2058-46-0 (HCl) Chemical Formula: C <sub>22</sub> H <sub>25</sub> ClN <sub>2</sub> O <sub>9</sub> Molecular Weight: 496.897		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

Oxytetracycline Hydrochloride is the hydrochloride salt form of oxytetracycline, a tetracycline derivative produced by *Streptomyces rimosus* exhibiting antimicrobial activity. Oxytetracycline Hydrochloride is an antibacterial compound isolated from the elaboration products of the actinomycete, *Streptomyces rimosus*, when grown on a suitable medium. Oxytetracycline hydrochloride interferes with binding of aminoacyl-tRNA to the mRNA-ribosome complex, thereby preventing peptide elongation and inhibiting protein synthesis. It is often used to treat skin conditions.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	299.5	602.74
Water	99.0	199.24

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.01 mL	10.06 mL	20.13 mL
5 mM	0.40 mL	2.01 mL	4.03 mL
10 mM	0.20 mL	1.01 mL	2.01 mL
50 mM	0.04 mL	0.20 mL	0.40 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

1. Song Y, Kim IK, Choi I, Kim SH, Seo HR. Oxytetracycline have the therapeutic efficiency in CD133+ HCC population through suppression CD133 expression by decreasing of protein stability of CD133. *Sci Rep*. 2018 Oct 31;8(1):16100. doi: 10.1038/s41598-018-34301-1. PMID: 30382122; PMCID: PMC6208387.

2. Rok J, Wrześniok D, Beberok A, Otręba M, Delijewski M, Buszman E. Phototoxic effect of oxytetracycline on normal human melanocytes. *Toxicol In Vitro*. 2018 Apr;48:26-32. doi: 10.1016/j.tiv.2017.12.008. Epub 2017 Dec 15. PMID: 29248593.

### In vivo study

1. Jayanthi R, Subash P. Antioxidant effect of caffeic Acid on oxytetracycline induced lipid peroxidation in albino rats. *Indian J Clin Biochem*. 2010 Oct;25(4):371-5. doi: 10.1007/s12291-010-0052-8. Epub 2010 Oct 5. PMID: 21966107; PMCID: PMC2994573.

2. Pari L, Gnanasoundari M. Influence of naringenin on oxytetracycline mediated oxidative damage in rat liver. *Basic Clin Pharmacol Toxicol*. 2006 May;98(5):456-61. doi: 10.1111/j.1742-7843.2006.pto\_351.x. PMID: 16635103.

# Product data sheet



## 7. Bioactivity

### Biological target:

Oxytetracycline hydrochloride is an antibiotic belonging to the tetracycline class.

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### In vitro activity

Through screening, this study identified oxytetracycline, which showed significant inhibition activity of LCSC population without damage on hepatocytes. To determine whether oxytetracycline targets LCSC, this study examined whether oxytetracycline treatment could change the CD133 expression, spheroid forming ability as well as the levels of stem cell-related markers. Treatment of spheroid-forming LCSC with oxytetracycline effectively decreased the spheroid formation and the CD133+ cell population. oxytetracycline could suppress expression of CD133 without changing of expression of other stem cell-related markers.

Reference: Sci Rep. 2018 Oct 31;8(1):16100. <https://pubmed.ncbi.nlm.nih.gov/30382122/>

### In vivo activity

The present work was carried out to evaluate the effect of naringenin on antioxidant and lipid peroxidation status in liver of oxytetracycline-intoxicated rats. Intraperitoneal administration of oxytetracycline 200 mg/kg for 15 days resulted 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 liver. Oxytetracycline also caused a significant reduction in the activities of superoxide dismutase, catalase, glutathione peroxidase, reduced glutathione (GSH), vitamin C and vitamin E in liver.

Reference: Basic Clin Pharmacol Toxicol. 2006 May;98(5):456-61. <https://pubmed.ncbi.nlm.nih.gov/16635103/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*