



# 4-Epi-oxytetracycline, EvoPure<sup>®</sup>

## PRODUCT DATA SHEET

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<b>Product Name:</b>	4-Epi-oxytetracycline, EvoPure <sup>®</sup>
<b>Product Number:</b>	O008
<b>CAS Number:</b>	14206-58-7
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>24</sub> N <sub>2</sub> O <sub>9</sub>
<b>Molecular Weight:</b>	460.43
<b>Form:</b>	Powder
<b>Source:</b>	Synthetic
<b>Storage Conditions:</b>	-20 °C
<b>Description:</b>	<p>4-Epi-oxytetracycline, EvoPure<sup>®</sup> (oxytetracycline-related compound A) is an oxytetracycline metabolite and impurity found in commercial oxytetracycline. It can be used as a QC standard during stability studies of oxytetracycline and can be used to study the degradation pathway and products of tetracyclines. 4-Apo-oxytetracycline, EvoPure<sup>®</sup> is</p> <p>We also offer:</p> <ul style="list-style-type: none"><li>• <math>\alpha</math>-Epi-oxytetracycline, EvoPure<sup>®</sup> (oxytetracycline-related compound A) (<a href="#">O009</a>)</li><li>• <math>\beta</math>-Apo-oxytetracycline, EvoPure<sup>®</sup> (oxytetracycline-related compound E) (<a href="#">O010</a>)</li></ul>
<b>Mechanism of Action:</b>	<p>Oxytetracycline causes inhibition of protein synthesis. It binds to the 30S ribosomal subunit and prevents the amino-acyl tRNA from binding to the A site of the ribosome.</p> <p>In an acellular model systems of protein synthesis using ribosomes from tetracycline sensitive and resistant strains of <i>E. coli</i> in the synthesis of polyphenylalanine, oxytetracycline showed inhibitory activity along with minocycline. 4-Epi-oxytetracycline and beta-apo-oxytetracycline had competing properties with respect to oxytetracycline at the stage of penetration through the cell membrane but did not, however, suppress the synthesis of polyphenylalanine.</p>
<b>Spectrum:</b>	4-epi-oxytetracycline has only 5% of the potency against <i>Staphylococcus aureus</i> and <i>E. coli</i> compared to oxytetracycline. 4-epi-oxytetracycline can also be used to prepare <i>S. aureus</i> and <i>E. coli</i> selective media.
<b>Microbiology Applications</b>	4-epi-oxytetracycline has only 5% of the potency against <i>Staphylococcus aureus</i> and <i>E. coli</i> in comparing with oxytetracycline. 4-epi-oxytetracycline can also be used to prepare <i>S. aureus</i> and <i>E. coli</i> selective media.

**Technical Data:**

HPLC, NMR, FTIR, and MS analysis may be available. For more info, please email [info@toku-e.com](mailto:info@toku-e.com).

**References:**

Beliavskaia et al. (1976) Study of the mechanism of action of minocycline and of certain other tetracycline group compounds. *Antibiotiki*, 21(3): 242 - 245

Halling-Sorensen B, Sengelov G and Tjornelund J (2002) Toxicity of tetracyclines and tetracycline degradation products to environmentally relevant bacteria, including selected tetracycline-resistant bacteria. *Arch. Environ. Contam. Toxicol.* 42(3):263-271 PMID 11910453

Lykkeberg AK, Halling-Sørensen B, Cornett C, Tjørnelund J and Honoré HS (2004) Quantitative analysis of Oxytetracycline and its impurities by LC-MS-MS. *J. Pharm. Biomed. Anal.* 34(2):325-332 PMID 15013146

Richeng X et al (2010) Hydrolysis and photolysis of Oxytetracycline in aqueous solution. *J. Environ. Sci. and Health* 45:73-81 PMID 20390934

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