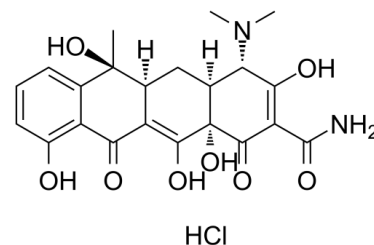


## Data Sheet

<b>Product Name:</b>	Tetracycline (hydrochloride)
<b>Cat. No.:</b>	CS-2588
<b>CAS No.:</b>	64-75-5
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>25</sub> ClN <sub>2</sub> O <sub>8</sub>
<b>Molecular Weight:</b>	480.90
<b>Target:</b>	Bacterial
<b>Pathway:</b>	Anti-infection
<b>Solubility:</b>	DMSO : 62.5 mg/mL (129.96 mM; Need ultrasonic); H <sub>2</sub> O : 50 mg/mL (103.97 mM; Need ultrasonic)



### BIOLOGICAL ACTIVITY:

Tetracycline (hydrochloride) is a broad-spectrum antibiotic, exhibiting activity against a wide range of gram-positive and gram-negative **bacteria**. **In Vitro:** Tetracyclines are broad-spectrum agents, exhibiting activity against a wide range of gram-positive and gram-negative bacteria, atypical organisms such as chlamydiae, mycoplasmas, and rickettsiae, and protozoan parasites. Tetracyclines inhibit bacterial protein synthesis by preventing the association of aminoacyl-tRNA with the bacterial ribosome. Tetracyclines traverse the outer membrane of gram-negative enteric bacteria through the OmpF and OmpC porin channels, as positively charged cation (probably magnesium)-tetracycline coordination complexes <sup>[1]</sup>. **In Vivo:** The tetracyclines have applications for the treatment of infections in poultry, cattle, sheep, and swine. In some cases, e.g., for therapeutic treatment of large numbers of poultry reared on commercial farms, the antibiotics are added directly to feed or water or can be administered in aerosols. Tetracyclines could be used as growth promotion or growth enhancement. Tetracyclines are used in aquaculture to control infections in salmon, catfish, and lobsters<sup>[2]</sup>.

### References:

[1]. Chopra I, et al. Tetracycline antibiotics: mode of action, applications, molecular biology, and epidemiology of bacterial resistance. *Microbiol Mol Biol Rev.* 2001 Jun;65(2):232-60

### CAIndexNames:

2-Naphthacenecarboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-, hydrochloride (1:1), (4S,4aS,5aS,6S,12aS)-

### SMILES:

O[C@@]1[C@@H](C(C(N)=O)=C2O=O)[C@@H]([C@@H]2N(C)C)[C@@H](O)[C@@H](O)(C3=CC=C4C)[C@@H](O)C(C3=C4O)=O)C1O.Cl

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA