

# Tetracycline hydrochloride

Cell Culture Tested

Product Code: TC036

## Product Description:

Molecular Weight: 480.90

Molecular Formula:  $C_{22}H_{24}N_2O_8 \cdot HCl$

CAS Number: 64-75-5

Synonym: Anhydrotetracycline, Abramycin, Biocycline, Cefracycline

Tetracycline is a polyketide antibiotic produced by *Streptomyces spp.* It inhibits protein synthesis by binding to 30S ribosomal subunit and blocking attachment of charged aminoacyl tRNA to ribosome. This prevents incorporation of new amino acids to the nascent peptide chain. It acts as a broad spectrum antibiotic against Gram-positive and Gram-negative bacteria.

In cell culture media, Tetracycline finds application as an anti-bacterial agent to prevent contamination. It is also used as a selection agent for cells containing tetracycline resistance gene. Besides this, Tetracycline-based externally regulated (Tet-based) systems have been successfully used to control the expression of numerous transgenes in cultured cells. These systems work on principle of reversible switch-on-switch-off of the experimental gene in presence of Tetracycline. These are tightly regulated and highly responsive systems that produce on-demand robust expression of gene of interest in target cells. During such Tet-system based mammalian cell culture studies, an animal-free media is to be used for cell growth and to prevent any interference from excess tetracycline present in media.

## Directions:

### Preparation instructions:

For cell culture applications, Tetracycline hydrochloride solution can be prepared as per required concentrations in water.

Solutions can be sterilized by filtering through a sterile membrane filter with a porosity of 0.22 microns or less.

## Quality Control:

### Appearance

Light yellow to orange crystals or powder or solid.

### Solubility

33.3 mg soluble in 1 ml of water on heating.

### pH

1.80 - 2.80

### FTIR

Matches with standard pattern

### Specific rotation

-255° to -240° (c=0.50% in 0.1M HCl at 20°C)

### Antibiotic sensitivity

Complies

### Potency

NLT 900 µg/mg

### Assay (NT/HPLC/NaOH Titration)

90.00 - 102.00%

### Cell Culture Test

Passes

## Storage and Shelf Life:

Store powder at 2 - 8°C in air tight containers and away from bright light.

Stock solutions should be stored at -20°C.

Shelf life is 36 months.

Use before expiry date given on the product label.

## Disclaimer :

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