

Product Name

Name: MycoClear-2 Antibiotic Solution 100X Conc.

Cat. No.: C3471-0010, C3471-0020, C3471-0100

Size: 10 mL / 20 mL / 100 mL

Product Description

MycoClear -2 is a member of the broad-spectrum tetracycline antibiotics, one of several semi-synthetic antibiotics available to prevent, treat and control contamination of cell lines by *Mycoplasma* species when used in tandem with MycoClear -1. The mode of action (MOA) of MycoClear -2 inhibits bacterial protein synthesis by blocking the attachment of transfer RNA-amino acid at the A-site on the 30S bacterial ribosome. More precisely they are inhibitors of the codon-anticodon interaction (i.e., the incoming aminoacyl-tRNAs to the A-site). Selectivity against bacterial versus eukaryotic ribosomes is due to both structural differences in the RNA of the ribosomal subunits and selective concentration in susceptible bacterial cells. MycoClear -2 offers treatment options when used sequentially and in combination with MycoClear -1 (a pleuromutilin antibiotic) to take advantage of the antibiotic synergism.

In human medicine, tetracyclines have been known since 1948 with the discovery of chlortetracycline and tetracycline from *Streptomyces aureofaciens* and oxytetracycline from *S. rimosus*. Minocycline was introduced in 1972. Although the lack of new versions of tetracycline reflects a declining role as the front-line therapy in many human infections, but on-going clinical development indicates continued interest in this polyketide antibiotic class. Tetracyclines were once considered broad-spectrum antibiotics but due to the relentless prevalence of bacterial resistance, among other things, these drugs have been reduced to niche indications. Although different classes of tetracyclines may see a revival, some of these newer drugs evade most tetracycline-resistant mechanisms and have a broad spectrum of activity.

Predominant Characteristics

- Much more effective when used sequentially with MycoClear -1
- Easy-to-use
- Liquid formulation
- Sterile-filtered (0.1µm)
- Shows high anti-mycoplasma activity

Storage & Handling

The product should be stored at -20°C. The product should not be left in the light for prolonged periods as it is light-sensitive. When stored in the dark under ideal conditions, the product is stable until the expiry date.

Procedure

1. Take a bottle out from proper storage conditions at -20°C and read the label.
2. Thaw to room temperature.
3. Ensure that the cap of the bottle is tight.
4. Gently swirl the solution in the bottle.
5. Wipe the outside of the bottle with a disinfectant solution such as 70% ethanol.
6. Take appropriate volume of the solution using aseptic/sterile technique under a laminar flow culture hood.

Recommended use

1. Do not use the two solutions together but sequentially.
2. Add 1 mL MycoClear -1 to 100 mL of culture medium. Culture the contaminated cells in this medium



for four days. Any fresh medium added should also include MYCOCLEAR-1.

3. After four days, add 1 mL MycoClear -2 to 100 mL of fresh medium. Maintain the cells in this second mixture for an additional three (3) days.
4. The aforementioned steps (from steps 1, 2 to 3) are considered as one treatment cycle. It may be necessary to repeat this cycle 2-3 more times.
5. During the process, the cells should be tested for the presence of *Mycoplasma* and the results may then be used to shorten the process where possible.

Manufacturer

Shanghai Dr. Cell Co., Ltd.

Effective Date

April 2023

Precaution and Disclaimer

For research use only, not for clinical diagnosis and treatment.

