

Mycoplasma Clearance Reagent

Description

TargetMol's Mycoplasma Clearance Reagent is a highly effective and safe solution designed for the removal and control of mycoplasma contamination in cell culture. Mycoplasma is one of the most common and insidious contaminants in cell culture, capable of significantly affecting cell proliferation, metabolism, and gene expression, ultimately leading to biased or unreliable experimental results. When contamination occurs in valuable or irreplaceable cell lines, this product serves as an ideal rescue option.

This product is primarily composed of Tiamulin fumarate and Minocycline hydrochloride. Tiamulin fumarate inhibits protein synthesis by binding to the 50S ribosomal subunit of mycoplasma, while Minocycline hydrochloride binds to the 30S subunit to block the entry of aminoacyl-tRNA into the ribosome, thereby preventing the peptide elongation process. Through these mechanisms, both components effectively inhibit protein synthesis and block the growth and replication of mycoplasma.

This product efficiently suppresses and eliminates common mycoplasma species, including *Acholeplasma laidlawii*, *Mycoplasma arginini*, *Mycoplasma hyorhinis*, and *Mycoplasma orale*, and also exhibits inhibitory effects against certain Gram-negative and Gram-positive bacteria. With excellent cell compatibility, it quickly and thoroughly removes mycoplasma contamination without significantly affecting cell morphology or growth, helping researchers restore normal cellular physiological functions and ensuring the stability and reliability of experimental systems.

Product Information

E.g., Taking 7.5 mg packing for example:

Catalog No.	Product Name	Packing
C0192-1	BM-Cyclin-1	5 mg
C0192-2	BM-Cyclin-2	2.5 mg

Features

- High efficiency: Demonstrates strong clearance efficacy against multiple common mycoplasma species.
- Excellent cell compatibility: Effectively removes mycoplasma with minimal impact on cell growth, morphology, and metabolism.
- Broad-spectrum activity: Besides mycoplasma, it also exhibits inhibitory effects against certain common Gram-negative and Gram-positive bacteria.
- Easy to use: Simply add to the culture medium to treat contaminated cells; suitable for a wide range of cell types.

Applications

Suitable for treating and eliminating mycoplasma contamination during cell culture and is particularly beneficial for valuable or irreplaceable cell lines.

With periodic use, it can effectively prevent re-infection, maintain the stability and purity of the cell culture system, and ensure the accuracy and reproducibility of downstream experiments.

Instructions

1. Preparation of Stock Solutions

- a) Dissolve 5 mg BM-Cyclin-1 in 2 mL sterile ddH₂O/PBS to prepare a 2.5 mg/mL (250x) stock solution.

b) Dissolve 2.5 mg BM-Cyclin-2 in 2 mL sterile ddH₂O/PBS to prepare a 1.25 mg/mL (250x) stock solution.

Note: The recommended working concentration for BM-Cyclin-1 is 10 µg/mL, and for BM-Cyclin-2 is 5 µg/mL. These concentrations generally do not affect most cell types. If cells are more sensitive, the working concentration may be reduced accordingly.

2. Mycoplasma Elimination Procedure

a) Discard the old culture medium from the contaminated cells and add fresh medium containing 10 µg/mL (1x) BM-Cyclin-1. Incubate at 37 °C for 3 days.

b) Discard the medium and add fresh medium containing 5 µg/mL (1x) BM-Cyclin-2. Incubate at 37 °C for 4 days.

c) The steps above constitute one complete treatment cycle. It is recommended to repeat two consecutive cycles to ensure complete mycoplasma elimination.

d) After treatment, replace with fresh drug-free medium and culture for 3-5 days to allow cells to recover.

3. Verification of Clearance Efficiency

After treatment, verify the clearance effectiveness using DAPI staining solution (C0163) or another mycoplasma detection kit.

Storage

Powder: -20 °C, 3 years.


Prepared solution: -20 °C, 6 months.

Precautions

1. BM-Cyclin-1 and BM-Cyclin-2 stock solutions should be aliquoted and stored at -20 °C. Avoid repeated freeze-thaw cycles to prevent loss of potency.
2. Avoid combining with other antibiotics during treatment to prevent cellular damage.
3. For particularly sensitive cell types, it is recommended to use half of the originally recommended working concentration and treat for three consecutive cycles.
4. If mycoplasma is not fully eliminated after two cycles, increase the working concentration by approximately 50% for subsequent treatment and continue for one additional cycle.
5. Always use BM-Cyclin-1 and BM-Cyclin-2 in sequence. Do not mix them together.
6. The product is for R&D use only, not for diagnostic procedures, food, drug, household or other uses.
7. Please wear a lab coat and disposable gloves.

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