Mycoplasma Removal Agent (100X)

Cat. No. CM1003
Storage instruction Store at -20°C. Avoid freeze-thaw.

Introduction

Mycoplasma contamination is a common issue in cell culture. It can alter the characteristics of cells. For instance, some mycoplasma species rapidly deplete arginine in the culture medium, competing with cells for nutrients, which can lead to slowed or halted cell growth. Additionally, mycoplasma can modify the enzyme profiles and membrane components of cells, causing chromosomal abnormalities or cytopathic changes. These effects can significantly compromise the reliability of experimental results obtained using contaminated cells.

Our product utilizes a combination of effective components that target mycoplasma ribosomes to inhibit protein synthesis and disrupt cell membrane integrity. It also acts on DNA helicase to inhibit the synthesis and replication of mycoplasma DNA. The ingredients can penetrate mammalian cell membranes, eliminating both extracellular and intracellular mycoplasma, ensuring that treated cells are not re-infected by intracellularly released mycoplasma. Within 1-2 weeks, over 90% of mycoplasma can be eradicated with minimal cytotoxic effects. Additionally, this product exhibits inhibitory effects on both Gram-negative and Gram-positive bacteria.

Product Features

High Efficacy: Exhibits broad-spectrum elimination against multiple mycoplasma strains.
Rapid Action: Significantly reduces mycoplasma contamination in a short period.
Safety: Non-toxic to cells, ensuring normal cell growth and function.
Ease of Use: Simply add to the culture medium without the need for complex procedures.

Application

Suitable for various cell cultures, including animal cells, human cells, and stem cells. Ideal for use in research laboratories, pharmaceutical companies, and biotechnology firms during cell culture processes. Particularly beneficial for precision experiments and research requiring high-purity cell cultures.

Product Information

Name	Catalog	Size	Storage
Mycoplasma Removal Agent (100X)	CM1003	5mL	Store at -20°C. Avoid freeze-thaw.

Usage Instructions

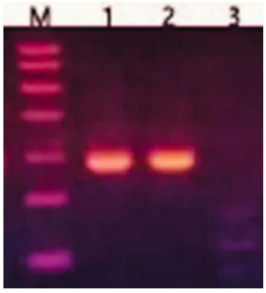
Thawing Instructions: After thawing, if any crystallization occurs, place the vial in a 37°C water bath for 10-15 minutes until completely dissolved. This will not affect the products efficacy.

Preparation of Working Medium: Add the product to the complete culture medium at a 1:100 ratio to prepare a 1X working medium.

Cell Passage Instructions: During cell passaging, centrifuge to remove the culture supernatant, then resuspend the cells in the 1X working medium for normal culture and passaging for 1-2 weeks. Washing cells with PBS 1-2 times during passaging can enhance the efficiency of mycoplasma elimination.

Example of Elimination Effect

Note: M represents Marker I; 1 is the positive control; 2 is the untreated mycoplasma-infected cells; 3 is the cells after one week of treatment.



Recommendations

After treating cells with this product until routine PCR tests show negative results, it is recommended to continue treatment for an additional week to ensure the elimination of trace amounts of mycoplasma. Continue testing during this period. If the results remain negative, try removing the reagent and continue normal culture for two weeks, while maintaining the testing frequency to ensure no rebound occurs. If the results are all negative after two weeks of normal culture, the cells are considered completely cured, and the testing frequency can be reduced. This constitutes a complete treatment process. If a rebound occurs, the cells will need to restart a full treatment cycle.

If laboratory conditions allow, use two incubators to separately culture infected and clean cells. During the removal treatment, temporarily place the treated cells in the same incubator as the infected cells. Once the test results are negative, transfer them to another incubator for observation. Similarly, if conditions permit, handle infected and clean cells on different laminar flow hoods, and also separate consumables and reagents. If conditions do not permit, try to place infected, treated, and clean cells in different layers. Handle different cells separately, treating clean cells first, followed by treated and infected cells. Use separate reagents, and prioritize consumables for clean cells. Unused but opened consumables should only be used for infected cells, minimizing the potential for cross-contamination.

Technicians should possess certain technical proficiency. Establishing a mycoplasma-free cell environment requires a long-term commitment. Removing mycoplasma contamination takes time, and routine testing is necessary to ensure cells are free from mycoplasma. Early detection and treatment are key. Adhering to standardized procedures without taking chances is essential for building a mycoplasmafree cell culture platform.

Common Questions

Q: Why do black spots in the culture medium not decrease after the removal treatment?

A: The academic community has not reached a consensus on what black spots are. Some believe they are cell debris, while others think they might be inorganic substances, fungi, bacteria, or even blackheads. There is no literature linking the presence of black spots to mycoplasma infection. Therefore, the number of black spots does not reflect the amount of mycoplasma.

Q: Why do cells experience repeated infections?

A: Mycoplasma can be transmitted through aerosols, and sharing reagents and consumables with infected cells easily leads to cross-contamination, causing cells that have just been treated for mycoplasma to become re-infected when returned to normal culture. Mycoplasma is also present on human skin and in the oral cavity. Non-standard operations (e.g., handling cells without gloves, not wearing masks during operations, and casual conversations) can easily re-infect cells that have just been treated. Establishing and strictly following standardized operating procedures is the most effective way to prevent repeated infections.