

Plasmocin™ Prophylactic

For the prevention of mycoplasma contamination of cell culture

Catalog # ant-mpp

For research use only

Version # 11K07-MM

PRODUCT INFORMATION

Content:

- 25 mg Plasmocin™ Prophylactic, provided in 10 x 1 ml tubes at a concentration of 2.5 mg/ml.

Shipping and Storage:

- Plasmocin™ Prophylactic is shipped at room temperature and should be stored at 4°C or -20°C.

- Plasmocin™ Prophylactic is stable 6 months at 4°C and at least 2 years at -20°C. Avoid repeated freeze-thaw cycles.

Note: Presence of crystals does not alter properties of the product. Vortex the tube until the crystals disappear.

Quality Control:

Activity of Plasmocin™ Prophylactic is rigorously controlled by physicochemical and microbiological assays.

GENERAL PRODUCT USE

Plasmocin™ Prophylactic can be used as a routine addition in liquid media to prevent mycoplasma and related cell wall-less bacteria contamination in mammalian cell cultures.

Plasmocin™ Prophylactic exhibits no toxicity in eukaryotic cells.

BACKGROUND

Mycoplasma contamination of cultured cells is a major problem in both basic research and industrial production. Up to 87% of cell lines may be contaminated by mycoplasma^{1,2}. Mycoplasma cannot be detected by visual inspection and may not noticeably affect cell culture growth rates. However, mycoplasma infection has been shown to alter DNA, RNA and protein synthesis, introduce chromosomal aberrations and cause alterations or modifications of host cell plasma membrane antigens.

DESCRIPTION

Plasmocin™ is a well-established anti-mycoplasma reagent for routine use in different cell types³⁻⁶. Plasmocin™ contains two bactericidal components strongly active against mycoplasmas. The first component acts on the protein synthesis machinery by interfering with ribosome translation, and the other acts on DNA replication by interfering with the replication fork. These two specific and separate targets are found in mycoplasma and many other bacteria, but are completely absent in eukaryotic cells.

In contrast to other anti-mycoplasma compounds, Plasmocin™ is active on both free mycoplasmas and intracellular forms. This advantage is conferred by one component of Plasmocin™ which is actively transported into mammalian cells. In all animal cell lines tested to date, even at five times the working concentration, no apparent adverse effect on cellular metabolism is observed.

Plasmocin™ is active at low concentrations on a broad range of gram positive and gram negative bacteria otherwise resistant to the mixture of streptomycin and penicillin antibiotics commonly used in cell cultures. The activity of Plasmocin™ is unaltered in cell culture medium containing up to 20% serum.

1. Lincoln CK. & Gabridge MG., 1998. Cell culture contamination: sources, consequences, prevention, and elimination. *Methods Cell Biol.* 57:49-65. **2. Uphoff CC. & Drexler HG., 2002.** Comparative PCR analysis for detection of mycoplasma infections in continuous cell lines. *In Vitro Cell Dev Biol Anim.* 38:79-85. **3. Charrier L. et al., 2007.** ADAM-15/Metargidin Mediates Homotypic Aggregation of Human T Lymphocytes and Heterotypic Interactions of T Lymphocytes with Intestinal Epithelial Cells. *J. Biol. Chem.* 282:16948-58. **4. Bissonnette SL. et al., 2008.** An Endogenous Prostaglandin Enhances Environmental Phthalate-Induced Apoptosis in Bone Marrow B Cells: Activation of Distinct but Overlapping Pathways. *J. Immunol.* 181:1728-36. **5. Marusina AI. et al., 2008.** Regulation of Human DAP10 Gene Expression in NK and T Cells by AP-1 Transcription Factors. *J. Immunol.* 180:409-17. **6. Burgess SJ. et al., 2006.** IL-21 Down-Regulates NKG2D/DAP10 Expression on Human NK and CD8+ T Cells. *J. Immunol.* 176:1490-7.

RESISTANCE TO PLASMOCIN™

In repeated experiments aimed to determine the mutation rate of *Mycoplasma hominis*, *Mycoplasma bovis* and *Acholeplasma vituli* to Plasmocin™, no resistance in liquid cultures has ever been identified, indicating a possible mutation rate lower than 10⁻⁹. Therefore, development of resistant mycoplasma strains is highly unlikely.

METHOD

To prevent mycoplasma and related cell wall-less bacteria contamination of cell cultures that have been previously tested to be contamination-free. Plasmocin™ Prophylactic can be used in combination with penicillin and streptomycin.

1. Use Plasmocin™ Prophylactic at a concentration of 5 µg/ml, that represents a 1:500 dilution of the 2.5 mg/ml stock solution in culture medium (200 µl Plasmocin™ Prophylactic in 100 ml culture medium).
2. Remove and replace with fresh Plasmocin™ Prophylactic containing medium every 3-4 days.
3. Frequently test for the presence of mycoplasma in your cell cultures. Mycoplasma can be detected using Plasmotest™, a simple and reliable cell-based assay for the detection of mycoplasma contamination.

Note: If you detect mycoplasmas in your cells, we recommend the use of Plasmocin™ Treatment (25 mg/ml solution) which eliminates mycoplasmas from infected cultures.

RELATED PRODUCTS

Product	Catalog Code
Plasmotest™	rep-pt2
Plasmocin™ Treatment	ant-mpt

TECHNICAL SUPPORT

Toll free (US): 888-457-5873

Outside US: (+1) 858-457-5873

Europe: +33 562-71-69-39

E-mail: info@invivogen.com

Website: www.invivogen.com



3950 Sorrento Valley Blvd. Suite 100
San Diego, CA 92121 - USA