

# Plasmocin™ Prophylactic

For the prevention of mycoplasma contamination in cell cultures

Catalog # ant-mpp

<http://www.invivogen.com/plasmocin>

For research use only. Not for human or veterinary use.

Version # 16F09-MM

## PRODUCT INFORMATION

### Content

Plasmocin™ Prophylactic is supplied as a cell culture tested, sterile filtered yellow solution at 2.5 mg/ml.

- **ant-mpp:** 10 x 1 ml (25 mg)

One 1 ml vial is sufficient for 500 ml of culture.

### Shipping and Storage

- Plasmocin™ Prophylactic is shipped at room temperature. Upon receipt it can be stored at 4 °C for 1 month or at -20 °C for long-term storage. Avoid repeated freeze-thaw cycles.
- The expiry date is specified on the product label.

**Note:** Product is stable for 2 weeks at room temperature.

## QUALITY CONTROL

Each lot is thoroughly tested to ensure the absence of lot-to-lot variation:

- Endotoxin level: < 10 EU/mg
- Physicochemical characterization (pH, appearance)
- Cell culture tested: potency validated on bacterial reference strains

## BACKGROUND

Mycoplasma contamination is a significant problem for mammalian cell culture. Reports estimate mycoplasma contamination in up to 35% of all cell cultures. Unlike bacterial or fungal contaminations, 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™ Prophylactic is a highly cited broad-spectrum anti-mycoplasma reagent. It can be used as a "routine addition" in liquid media to prevent mycoplasma and related cell wall-less bacteria contamination in mammalian cell cultures. It is active against numerous mycoplasmas, such as *M. arginini*, *M. fermentans*, *M. laidlawii*, and *M. hyorhinitis*. In contrast to other anti-mycoplasma compounds, Plasmocin™ is active on both extracellular mycoplasmas and intracellular forms. This advantage is conferred by one component of Plasmocin™ that is actively transported into mammalian cells.

Plasmocin™ is active at low concentrations on a broad range of Gram-positive bacteria, such as *Staphylococcus* species, and Gram-negative bacteria, such as *E. coli*, *Enterobacter*, *Pseudomonas*, and *Alcaligenes*. Plasmocin™ Prophylactic (5 µg/ml) exhibits no toxicity in eukaryotic cells. Its activity is unaffected by the presence of up to 20% serum in cell culture medium.

## COMPOSITION

Plasmocin™ contains two bactericidal components. The first component acts on the protein synthesis machinery by interfering with ribosome translation, and the other acts on DNA replication. These two specific and separate targets are found in mycoplasma and many bacteria, but are absent in eukaryotic cells.

## DEVELOPMENT OF PLASMOCIN™-RESISTANCE

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<sup>-9</sup>. Therefore, development of resistance in these reference mycoplasma strains is highly unlikely.

## METHOD

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

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. Refer to the table below to determine the volume needed.

Reagent	T25 with 5 ml medium	T75 with 15 ml medium	500 ml bottle
Plasmocin™ Prophylactic	10 µl	30 µl	1 ml

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 (for catalog code see Related Products below).

**Note:** If you detect mycoplasmas in your cells, we recommend the use of [Plasmocin™ Treatment](#) that eliminates mycoplasmas from infected cultures.

## RELATED PRODUCTS

Product	Description	Cat. Code
Normocin™	Antimicrobial agent	ant-nr-1
Normocure™	Antibacterial agent	ant-noc
Plasmocin™ Treatment	Mycoplasma removal agent	ant-mpt
PlasmoTest™	Mycoplasma detection kit	rep-pt1
Primocin™	Antimicrobial for primary cells	ant-pm-1

## TECHNICAL SUPPORT

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