



Transferring genes

PLASMOCIN™

For treatment of *Mycoplasma* infection of eukaryotic cells.

Catalog # PLASM0050.

Plasmocin™ is suitable for research purposes only. It must not be used on humans.

BACKGROUND :

Recent reports estimate *Mycoplasma* contamination in up to 63% of all cell cultures. *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.

Plasmocin™ is a new generation of bactericidal antibiotic preparation strongly active on *Mycoplasma* infected cells. It 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.

PROPERTIES :

Plasmocin™ contains two newly developed bactericidal components: one 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 only in *Mycoplasma* and many other bacteria, and are completely absent in eukaryotic cells. All eukaryotic organisms tested to date have been found to be insensitive to Plasmocin™ at concentrations up to 200 µg/ml.

In contrast to other anti-*Mycoplasma* compounds that act solely in vitro, Plasmocin™ is active on *Mycoplasma* present in cell culture medium, and on intracellular *Mycoplasma* found in some specialized mammalian cells. The two antibiotics comprising Plasmocin™ are actively transported into mammalian cells providing a synergistic killing effect on intracellular *Mycoplasma* without any apparent adverse effect on cellular metabolism, even at 5 times the working concentration. This benefit insures that after being treated with Plasmocin™, a cell culture is not reinfected by *Mycoplasma* released from the intracellular compartments of infected cells following antibiotic removal. The anti-*Mycoplasma* activity of Plasmocin™ is unaltered in cell culture medium containing up to 20% serum.

RESISTANCE TO PLASMOCIN™ :

In repeated experiments aimed to determine the mutation rate of *Mycoplasma hominis* and *Mycoplasma bovis* 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.

APPLICATION :

Plasmocin™ is used to cure *Mycoplasma* infected cell lines or can be used as a routine addition in liquid media to prevent *Mycoplasma* and more generally bacterial contamination in small and large animal cell cultures.

WORKING INSTRUCTIONS:

-Treatment of Mycoplasma Infected Cell Cultures :

Plasmocin™ treatment requires little hands-on manipulation and is completed in only 10 to 14 days. It is used at 12.5 µg/ml to 25 µg/ml and represents a 1:1000 to 1:2000 dilution of the 25 mg/ml stock solution.

1. Split an actively dividing culture of cells into medium containing 12-25 µg/ml of Plasmocin™.
2. Remove and replace with fresh Plasmocin containing medium every 3-4 days for 10 to 14 days.
3. *Mycoplasma* will be eliminated by day 10 to 14.
4. For maintenance of a *Mycoplasma* free culture, continue the use of Plasmocin™ at a concentration of 5 µg/ml.

-Maintenance or prophylactic use against bacterial or Mycoplasma infections :

If the potential for *Mycoplasma* or bacterial contamination is present (such as other infected cell lines), then the prophylactic use of Plasmocin™ is recommended. For cell culture maintenance, Plasmocin™ is used at a concentration of 5 µg/ml that represents a 1:5000 dilution of the 25 mg/ml stock solution.

PRODUCT INFORMATION:

Formulation and packaging

Plasmocin is shipped as 1ml tube of a 25 mg/ml (50 mg total) yellow solution. Sufficient antibiotic is supplied to treat at least 2 liters of culture.

Stability and storage

Plasmocin™ is shipped at room temperature. Upon receipt, it should be stored at 4°C for immediate use. For long term storage, freeze at -20°C. Plasmocin™ is stable for at least one year when stored at -20°C.

www.cayla.com, e.mail : cayla@cayla.com.

5 rue Jean Rodier 31 405 Toulouse cedex 4, France, Tel : 33 5 62 71 69 39, Fax : 33 5 62 71 69 30