Plasmocure™

For the elimination of mycoplasma contamination in cell cultures
Catalog # ant-pc
http://www.invivogen.com/plasmocure

For research use only. Not for human or veterinary use.
Version # 16F09-MM

PRODUCT INFORMATION
Content
Plasmocure™ is supplied as a cell culture tested, sterile filtered
solution at 100 mg/ml.
• ant-pc: 1 ml (100 mg)

One 1 ml vial is sufficient to treat 1 to 3.3 liters of culture.

Shipping and Storage
- Plasmocure™ is shipped at room temperature. Upon receipt it
  should be stored at 4 °C for 12 months 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: < 0.5 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
Plasmocure™ is a highly effective antibiotic solution for the treatment of
mycoplasma contaminated cell cultures. This solution is active
against various Mycoplasma species that infect mammalian cell
cultures including M. hyorhinis, M. orale, M. arginini, M. fermentans,
M. hominis and Acholeplasma laidlawii that represent 90-95% of the
contaminating strains. Plasmocure™ is recommended for the
elimination of mycoplasmas that appear to be resistant to
Primocin™, a wide spectrum and potent anti-mycoplasma agent. In
the rare cases where Plasmocin™-resistant mycoplasmas have been
encountered, Plasmocure™ can eliminate them because its
mechanism of action is different from Plasmocin™.
The cytotoxicity of Plasmocure™ is low, however a slowdown of cell
growth may be observed. At the end of the treatment, when
Plasmocure™ is removed from the culture medium, the cells return
rapidly to their normal growth rate.

COMPOSITION
Plasmocure™ contains two bactericidal components belonging to
different antibiotic families. They both act by inhibiting the protein
synthesis but use distinct mechanisms. The first antibiotic binds to
the 50S subunit of the ribosome and blocks peptidyltransferase
activity. The second antibiotic binds to isoleucyl-tRNA synthetase and
halts the incorporation of isoleucine into bacterial proteins. These two
specific and separate targets are found only in mycoplasmas and
Gram-positive bacteria, and are absent in eukaryotic cells.

METHOD
The working concentration of Plasmocure™ varies from 30
to 100 µg/ml. It can be added directly to the bottle of culture
medium or to the flask containing the cells. To determine the optimal
concentration for your cells, we recommend to test in parallel the 3
different concentrations shown in the table below. Refer to this table
to determine the volume of Plasmocure™ needed.
  Note: For small volumes, intermediary dilutions may be prepared with
sterile culture medium.

<table>
<thead>
<tr>
<th>Plasmocure™ final conc.</th>
<th>T25 with 5 ml medium</th>
<th>T75 with 15 ml medium</th>
<th>500 ml bottle</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 µg/ml</td>
<td>1.5 µl</td>
<td>4.5 µl</td>
<td>150 µl</td>
</tr>
<tr>
<td>50 µg/ml</td>
<td>2.5 µl</td>
<td>7.5 µl</td>
<td>250 µl</td>
</tr>
<tr>
<td>100 µg/ml</td>
<td>5 µl</td>
<td>15 µl</td>
<td>500 µl</td>
</tr>
</tbody>
</table>

1. Remove medium from contaminated cells and rinse twice with
phosphate buffered saline (PBS).
2. Split an actively dividing culture of cells into medium
containing fresh Plasmocure™.
3. Confirm the elimination of mycoplasmas by using a mycoplasma
detection kit such as PlasmoTest™, a cell-based colorimetric assay.
   Note: If mycoplasma elimination is not completed after a 2-week
   treatment, you may continue the treatment for an additional week.
5. At the end of the treatment, maintain the cell cultures in
Normocin™ and Pen-Strep or Primocin™ to prevent any further contamination.

RELATED PRODUCTS

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Cat. Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normocin™</td>
<td>Antimicrobial agent</td>
<td>ant-nr-1</td>
</tr>
<tr>
<td>PlasmoTest™</td>
<td>Mycoplasma detection kit</td>
<td>rep-pt1</td>
</tr>
<tr>
<td>Primocin™</td>
<td>Antimicrobial for primary cells</td>
<td>ant-pm-1</td>
</tr>
</tbody>
</table>

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