Primocin™

For the prevention of microbial contamination in primary cell cultures
Catalog code: ant-pm-05, ant-pm-1, ant-pm-2
https://www.invivogen.com/primocin

For research use only. Not for human or veterinary use.
Version 20A17-MM

PRODUCT INFORMATION

Contents
Primocin™ is supplied as a cell culture tested, sterile filtered, light yellow solution at 50 mg/ml. It is available in 3 pack sizes:
- ant-pm-05: 5 x 1 ml (250 mg)
- ant-pm-1: 10 x 1 ml (500 mg)
- ant-pm-2: 1 x 20 ml (1 g)

The 1 ml vial is sufficient to treat 500 ml of culture. The 20 ml bottle is sufficient to treat 10 liters of culture.

Shipping and storage
- Primocin™ is shipped at room temperature. Upon receipt, it can be stored at 4 °C for 3 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 and fungal reference strains

DESCRIPTION

Primocin™ is a broad-spectrum antibiotic formulation specifically designed to protect primary cells from microbial contaminations. Primary cells are valuable models for scientific experimentation; however, they are highly susceptible to contamination either from the natural flora of the host animal or during the cell isolation procedure. Primocin™ provides complete protection against microbial contaminants. It is active against Gram-positive (e.g. Bacillus and Staphylococcus species) and Gram-negative bacteria (e.g. E. coli, Enterobacter, P. aeruginosa and Acinetobacter), mycoplasmas, and fungi including yeasts (e.g. C. albicans and S. cerevisiae). There is no need to add penicillin and streptomycin (Pen-Strep).

Primocin™ provides maximum protection against microbial contamination with minimal cytotoxicity as it acts on targets found only in microorganisms. Primocin™ is composed of four compounds, of which three act on mycoplasmas, Gram-positive and Gram-negative bacteria. These compounds target DNA gyrase and the prokaryotic ribosomal subunits (30S and 50S), and hence block DNA and protein synthesis, respectively. The fourth compound eradicates fungi, including yeasts. The fungal target is ergosterol, a molecule only found in the cell membrane of fungi.

METHODS

Preventive use against contamination by bacteria, mycoplasmas, and fungi (including yeasts)
We recommend using Primocin™ at 100 µg/ml, which represents a 1:500 dilution of stock solution (see table below).

Recommended volumes for Primocin™

<table>
<thead>
<tr>
<th>Reagent</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>Primocin™</td>
<td>10 µl</td>
<td>30 µl</td>
<td>1 ml</td>
</tr>
</tbody>
</table>

1. Split an actively dividing culture of cells into medium containing 100 µg/ml of Primocin™.
2. Remove and replace with fresh Primocin™-containing medium every 3-4 days.
3. Repeat every time the culture medium requires refreshment.

APPLICATIONS

Primocin™ has been used successfully for the protection of numerous murine and human primary cell cultures, including fibroblasts, glial cells, astrocytes, peripheral blood mononuclear cells (PBMCs), and natural killer (NK) cells. Notably, Primocin™ has been defined as a "critical addition" used throughout the culturing and reprogramming of embryonic cells, and pluripotent stem cells. Several published protocols specify the use of Primocin™ for 3D cellular models such as organoids and spheroids. It is included routinely in the growth of colon epithelial and carcinoma organoids as well as bladder, breast, and prostate cancer organoids. Of note, Primocin™ can be added to the wash and storage buffers when obtaining primary cells from biopsies.

Examples from the literature of Primocin™ use

<table>
<thead>
<tr>
<th>Cells cultures</th>
<th>Primocin™ conc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human bladder, breast, colon epithelia, colorectal cancer, intestinal, liver, and pancreatic organoids</td>
<td>100 µg/ml</td>
</tr>
<tr>
<td>Human pluripotent stem cells &amp; mesenchymal precursor cells</td>
<td>100 µg/ml</td>
</tr>
<tr>
<td>PBMCs &amp; human NK cells</td>
<td>100 µg/ml</td>
</tr>
<tr>
<td>Murine embryonic fibroblasts, pluripotent stem cells, embryonic mammmary progenitor cells &amp; astrocytes</td>
<td>100 µg/ml</td>
</tr>
<tr>
<td>Cultures of human colon normal and tumour fibroblasts</td>
<td>250 µg/ml</td>
</tr>
<tr>
<td>Human pluripotent stem cells</td>
<td>100-500 µg/ml</td>
</tr>
<tr>
<td>Neonatal rat ventricular myocytes</td>
<td>500 µg/ml</td>
</tr>
</tbody>
</table>

Note: Full citations are listed on the next page.

TECHNICAL SUPPORT
InvivoGen USA (Toll-Free): 888-457-5873
InvivoGen USA (International): +1 (858) 457-5873
InvivoGen Europe: +33 (0) 5-62-71-69-39
InvivoGen Hong Kong: +852 3622-3480
E-mail: info@invivogen.com

www.invivogen.com
Below are the citations of various applications for the use of Primocin™ as listed on the previous page.