

Primocin™

For the prevention of microbial contamination in primary cell cultures

Catalog # ant-pm-1, ant-pm-2
<http://www.invivogen.com/primocin>

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

Version # 16F22-MM

PRODUCT INFORMATION

Content

Primocin™ is supplied as a cell culture tested, sterile filtered light yellow solution at 50 mg/ml. It is available in 2 pack sizes:

- **ant-pm-1:** 10 x 1 ml (500 mg)
- **ant-pm-2:** 1 x 20 ml (1 g)

One 1 ml vial is sufficient to treat 500 ml of culture.
One 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 minimum cytotoxicity. It acts on targets found only in microorganisms. Bacterial targets are the DNA gyrase and the prokaryotic ribosomal subunits, 30S and 50S. The fungal target is ergosterol, a molecule only found in the cell membrane of fungi.

Primocin has been used successfully in many primary cells, including mouse- and human-tumor derived cell lines¹, embryonic cells² and induced pluripotent stem cells³⁻⁶.

COMPOSITION

Primocin™ contains four compounds. Three of these compounds act on mycoplasmas, Gram-positive and Gram-negative bacteria by blocking DNA and protein synthesis. The fourth compound eradicates fungi, including yeasts, by disrupting ionic exchange through the cell membrane.

METHOD

Preventive use against contamination by bacteria, mycoplasmas and fungi (including yeasts)

For primary cell culture maintenance, Primocin™ is used at a concentration of 100 µg/ml, which represents a 1:500 dilution of stock solution. Refer to the table below to determine the quantity of Primocin™ needed.

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

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

REFERENCES

1. Sanchez-Laorden B. et al., 2014. BRAF inhibitors induce metastasis in RAS mutant or inhibitor-resistant melanoma cells by reactivating MEK and ERK signaling. *Sci Signal*. 7(318).
2. Lionnet T. et al., 2011. A transgenic mouse for in vivo detection of endogenous labeled mRNA. *Nat Methods*. 8(2):165-70.
3. Grabundzija I. et al., 2013. Sleeping Beauty transposon-based system for cellular reprogramming and targeted gene insertion in induced pluripotent stem cells. *Nucleic Acids Res*. 41(3):1829-47.
4. Wang J. et al., 2016. Isolation and cultivation of naive-like human pluripotent stem cells based on HERVH expression. *Nat Protoc*. 11(2):327-46.
5. Klawitter S. et al., 2016. Reprogramming triggers endogenous L1 and Alu retrotransposition in human induced pluripotent stem cells. *Nat Commun*. 7:10286.
6. Zhou T. et al., 2012. Generation of human induced pluripotent stem cells from urine samples. *Nat Protoc*. 7(12):2080-9.

RELATED PRODUCTS

Product	Description	Cat. Code
Fungin™	Antifungal agent	ant-fn-1
Normocin™	Antimicrobial agent	ant-nr-1
Normocure™	Antibacterial agent	ant-noc
Plasmocin™ Prophylactic	Anti-mycoplasma agent	ant-mpp
Plasmocin™ Treatment	Mycoplasma removal agent	ant-mpt
PlasmoTest™	Mycoplasma detection kit	rep-pt1

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