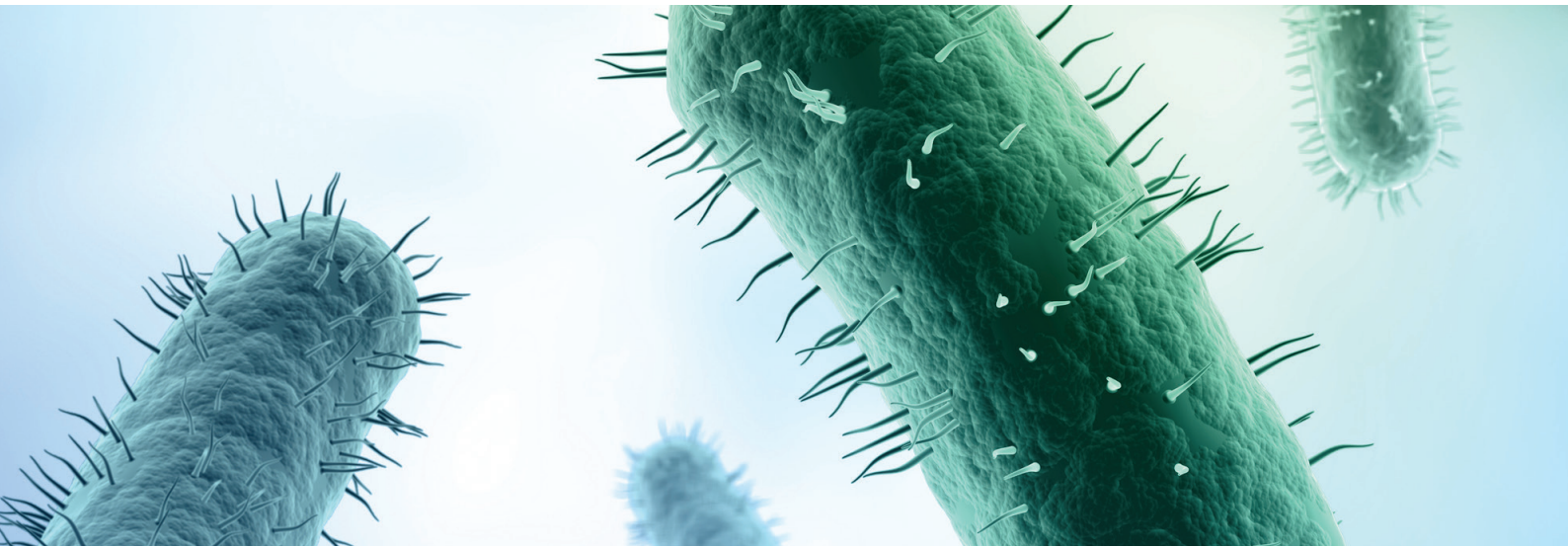




BI
Biological Industries
Culture of Excellence

Mycoplasma Products

Prevention, Detection, and Treatment for all Cell Culture Laboratories



Eliminating Mycoplasma Contamination

One of the most common and elusive contaminants of cell culture laboratories is mycoplasma. Mycoplasmas are pervasive species of highly infectious, parasitic bacteria; their broad range of hosts includes humans and other mammals, birds, reptiles, fish, insects, and plants.¹ Mycoplasma contamination can be transferred directly by aerosols, particulates, and inadequate sterile technique - or indirectly via media, solutions, and laboratory equipment previously used in processing mycoplasma-infected cells. As a result, 15 – 35% of all continuously cultured cell lines test positive for mycoplasma.² Another leading source of contamination is laboratory personnel, explaining the fact that mycoplasma species from human hosts are the most common contaminants – responsible for more than 50% of all infections.³ Since mycoplasma-infected cells cannot always be discarded, many complicated methods have previously been suggested for the elimination of mycoplasma from important cultures.

Mycoplasma contamination can affect biochemical, immunological, and cell signaling behaviors of cells in culture, and contamination can seriously impact the reliability, reproducibility, and consistency of experimental results. This represents a major problem for scientific research and manufacturing of bioproducts, as research using contaminated cell lines often produces inaccurate results, yielding misleading or incorrect publication data. A mycoplasma-free cell culture environment is a necessary precondition for safe and pure cell-derived products, as well as for reliable results in scientific experiments.

Biological Industries provides a powerful product portfolio for reliable detection and successful elimination and prevention of mycoplasma contaminations.

EZ-PCR™ Mycoplasma Detection Kit

For accurate, reliable and universal mycoplasma detection.

Pharmacidal™ Prevention Spray

For prevention of contamination and growth of a broad range of fungi, bacteria, mycoplasma and viruses (including HIV and Hepatitis B). Non-toxic, safe for lab equipment, incubators, and work surfaces.

Aquaguard™ Prevention Solutions

For disinfecting and routine prevention of bacterial and fungal contamination of benchtop and incubator water baths.

BIOMYC™ Treatment Solutions

For the treatment and removal of mycoplasma contamination from infected cell cultures.



Mycoplasma Products

Using PCR for the Detection of Mycoplasma

The EZ-PCR™ Mycoplasma Test Kit is a highly-sensitive and specific PCR-based assay designed to detect a broad range of mycoplasma species in cell cultures and other biological materials. This kit contains an optimized, complete PCR mix, including a variety of mycoplasma-specific primers, dNTP mix, and Taq polymerase. With the EZ-PCR™ Mycoplasma Test Kit's simple protocol and ready-to-use format, samples can be prepared and run in about 10 minutes, with accurate results seen in only a few hours.

Routine mycoplasma testing should be carried out minimally every 3 to 6 months, as well as prior to the incorporation of new cultures from outside sources.

Using Antibiotics for the Treatment of Mycoplasma-Infected Cells

BI's BIOMYC™ Antibiotic Solutions are designed to rescue important cell cultures from mycoplasma contamination. Specific combinations of BIOMYC™ Antibiotics are proven to be effective in the elimination of mycoplasma species that account for 90% of the contamination found in cell cultures. When used according to the elimination protocols, no cytotoxic effects, antibiotic resistance, or cellular damage is seen in the treated cultures.

Two methods are recommended for treating contaminated cells with antibiotics. The first is based on sequential treatment of BIOMYC™-1 and BIOMYC™-2 (tiamutin and minocycline), which has shown to be effective in eliminating the mycoplasma species frequently present in contaminated cell cultures.

The second treatment method involves the application of BIOMYC™-3 (ciprofloxacin) independently. Many mycoplasma species have been found to be specifically sensitive to BIOMYC™-3, including *A. laidlawii*, *M. orale*, *M. hyorhinis*, *M. fermentans* and *M. arginini*.

Ordering Information

Cat. #	Product Name	Size
20-700-20	EZ-PCR™ Mycoplasma Test Kit	20 tests
IC-110100	Pharmacidal™ Spray	1 L
IC-110100-B	Pharmacidal™ Spray	100 mL
IC-110100-L	Pharmacidal™ Spray	250 mL
IC-110100-G	Pharmacidal™ Solution (bulk, refill)	5 L
01-867-1B	Aquaguard™-1 Solution for disinfecting water baths of CO ₂ incubators	100 mL
01-916-1E	Aquaguard™-2 Solution for disinfecting water baths	50 mL
03-036-1D	BIOMYC™-1 Antibiotic Solution (100X)	10 mL
03-036-1C	BIOMYC™-1 Antibiotic Solution (100X)	20 mL
03-036-1B	BIOMYC™-1 Antibiotic Solution (100X)	100 mL
03-037-1D	BIOMYC™-2 Antibiotic Solution (100X)	10 mL
03-037-1C	BIOMYC™-2 Antibiotic Solution (100X)	20 mL
03-037-1B	BIOMYC™-2 Antibiotic Solution (100X)	100 mL
03-038-1D	BIOMYC™-3 Antibiotic Solution (100X)	10 mL
03-038-1C	BIOMYC™-3 Antibiotic Solution (100X)	20 mL
03-038-1B	BIOMYC™-3 Antibiotic Solution (100X)	100 mL

How to Order

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Culture of Excellence

Prevention of Contamination of Incubators, Surfaces, and Equipment



Pharmacidal™ Prevention Spray

More powerful than ethanol and other common lab alcohols for disinfecting and sterilizing benchtops and equipment, yet safe enough even to use on bare hands. Active ingredients are quaternary benzylammonium compounds, which prevent the growth of a variety of common and dangerous contaminants, without the toxic or caustic effects of other disinfecting solutions. Protection against multiple types of contaminants, including:

- Bacteria
- Fungi (including spores)
- Viruses (including HIV and Hepatitis B)
- Mycoplasma

Aquaguard™ Prevention Solutions

- **Aquaguard™-1 Solution** is intended for the treatment and prevention of contamination of water baths within CO₂ incubators. Aquaguard™-1 Solution does not cause any damage to the stainless steel tray or affect sensitive cells in culture. Preventative treatment of water baths within incubators can greatly reduce overall culture contamination.
- **Aquaguard™-2 Solution** is intended for disinfecting and preventing microbial growth in benchtop water baths. Routine application of the 500X Aquaguard™-2 Solution is a practical and efficient means of preventing bacterial and fungal contamination.

References:

1. Razin et al. 1998.
2. Drexler et al. 2002.
3. Nikfarjam et al. 2012.
4. Lincoln et al. 1990.
5. Armstrong et al. 2009.
6. Koshimizu et al. 1981.



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