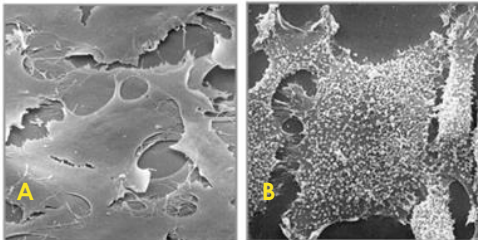




Mycoplasma Detection and Elimination

Background Information

One of the most common contaminants in cell culture laboratories are mycoplasma, an unrecognizable bacteria under phase contrast microscopes. Mycoplasma are the smallest living organisms (0.2 - 0.3 μ m) and can be present in cell culture media up to 10⁸ mycoplasma/ml without causing visible changes in the growth media, such as turbidity and pH changes. Therefore mycoplasma are often difficult to detect and the presence of mycoplasma can be unnoticed.



Absence (A) and presence (B) of mycoplasma in 3T3 cultures.

Mycoplasma affects virtually every aspect of the cell behaviour and can cause significant errors in experimental and/or clinical settings. Some notable effects are:

- Inhibition of cell proliferation up to 50% by nutrient withdrawal and secretion of harmful metabolic products
- Influence on immunological reactions
- Influence on virus proliferation and viral infection rate
- Potential cause in chromosomal aberrations
- Changes in microarray and gene expression profiles
- Decreased cell transfection rate
- Interference in DNA and protein isolation.

The average contamination rate states that between 15% - 35% of all continuous cell cultures are contaminated with mycoplasma, and the contamination rates are 5% in the industry and 47% in academics.

Various methods for detection are available, including the fluorescence method, culture method, and enzyme immune verification method. The disadvantages

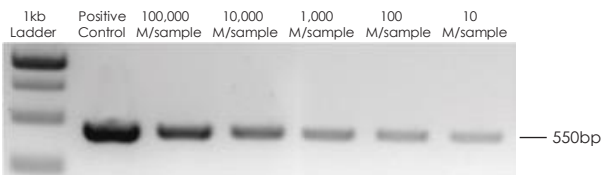


of these methods are that they are time-consuming and specialized equipments may be required. The solution for quick and easy mycoplasma detection is abm's PCR Mycoplasma Detection Kit. abm's PCR Mycoplasma Detection utilizes conventional PCR technology

for the convenient and specific detection of more than 70 contaminating mycoplasma species.

Key Features:

- Direct addition of cell culture supernatant to PCR reaction — no DNA isolation/ purification steps required
- Ready-to-use primer mix — reduces variability
- Able to detect over 70 types of mycoplasma species – high sensitivity
- Included positive control to verify negative results
- Rapid YES/NO results in 2 hours.



Detection of mycoplasmas with the PCR Mycoplasma Detection Kit (G238). *M/sample= Mycoplasma per sample.

Product Name	Size	Cat.No.	Price
PCR Mycoplasma Detection Kit	100 reactions x 25µl	G238	\$175.00

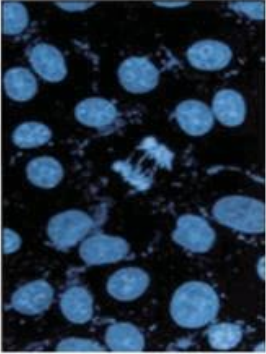
Recommended frequency testing

Frequent testing of mycoplasma is recommended in laboratories, especially when you receive new cell or virus cultures, as well as before each cryopreservation event. For continuous cell lines (Hela, HEK293, CHO etc), monthly testing is the best method to control potential spreads of contamination. Once contaminated, separate the work benches and incubators from mycoplasma free materials and discard or autoclave the contaminated culture ware immediately. Contaminated cells will require special treatment, such as the use of abm's Mycoplasma Elimination Cocktail.

Mycoplasma Detection

Elimination Method for Mycoplasma ---

Commonly used cell culture antibiotics including penicillin, streptomycin, and vancomycin are not effective against mycoplasma contamination. Methods to eliminate mycoplasma are limited to co-cultivation with macropages, autoclave, complement fixation and some chemical methods. The easiest among all methods are the chemical treatments. abm has developed a potent cocktail that can eliminate over 50 different species of mycoplasma with only 4 treatments. In addition, abm's mycoplasma elimination cocktail shows no toxicity to most cells under treatment as determined by gene array assay.



Fluorescence microscopic image of cells contaminated with mycoplasmas.

Key Features:

- Direct addition of cocktail to cell culture medium – no change to routine cell culture methods needed
- Effectively eliminates over 50 types of mycoplasma species – broad range
- Not cytotoxic to most mammalian cell lines
- Eliminates mycoplasma in less than 2 weeks (4 cell passages)
- Interoperable with other antibiotics
- Low resistance risk.

Product Name	Size	Cat.No.	Price
Mycoplasma Elimination Cocktail	2 x 1.0ml	G398	\$175.00

Mycoplasma Detection and Elimination Custom Services

Contamination of cell cultures with mycoplasma is a widespread laboratory problem that can jeopardize important experimental results. abm offers the following services to help you resolve this issue. Cell culture samples sent in by the customer will be analyzed for mycoplasma contamination and a report will be provided within 10 business days of receiving the cells.

Advantages of the Mycoplasma Detection Service:

- Excellent results — our mycoplasma detection technique is specially designed for sensitivity and accuracy
- Efficiency and convenience — all you need to do is to send in a cell culture sample

Product Name	Cat.No.	Price
Mycoplasma Detection Service	C214	\$52.00

abm also provides mycoplasma elimination service for customers. Mycoplasma-contaminated cell cultures sent in by the customer will be treated with anti-mycoplasma cocktails and delivered back to the customer once elimination has been confirmed. A report will be provided with the cell culture to certify the success of treatment. The entire process will be completed within approximately 45 business days of receiving the cell culture.

Advantages of the Mycoplasma Elimination Service:

- Effectiveness — complete removal of mycoplasma from cell culture is guaranteed
- Convenience— we eliminate the need for you to acquire special supplies and equipment needed to properly decontaminate cell culture samples

Product Name	Cat.No.	Price
Mycoplasma Elimination Service	C232	\$1500.00

For more information, please call ABM helpline at 1-866-757-2414 or visit our website at www.abmGood.com