

# ANTIMICROBIAL AGENTS

## MYCOPLASMA CONTROL



### Warning! Hidden danger in your cultures

- ❖ Detect, eliminate and prevent
- ❖ Simple, effective and reliable
- ❖ Cost-effective defense

Whoever said “what you can’t see can’t hurt” didn’t know a thing about mycoplasma. Mycoplasmas are the smallest self-replicating organisms and it is estimated that up to 35% of cell lines are infected by these parasites. Although unnoticeable, a mycoplasma infection can effect numerous cellular processes significantly impacting the interpretation of biological results. Protect your cells with advanced and proven mycoplasma defense from InvivoGen.

Save your valuable cell lines with:

MycStrip™

PlasmoTest™

Plasmocin™

Plasmocure™

[WWW.INVIVOGEN.COM/MYCOPLASMA](http://WWW.INVIVOGEN.COM/MYCOPLASMA)

# DETECTION OF MYCOPLASMA CONTAMINATION

## MycoStrip™

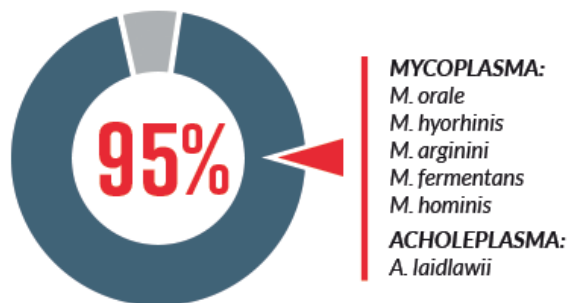
With over 40 years of experience in developing mycoplasma solutions for the scientific community, InvivoGen has developed MycoStrip™, an innovative kit for simple and robust detection of mycoplasma contamination.

### Key Features of InvivoGen's MycoStrip™

Forget other laborious detection methods, MycoStrip™ is an easy-to-use and highly sensitive method to rapidly detect mycoplasma contamination in your cell cultures.

- **Simple:** Only a heat block is required
- **Rapid:** Results within 2 - 5 minutes
- **Easy interpretation:** 1 or 2 bands on the strip.
- **Minimal hands-on-time:** <15 mins
- **Total test duration:** <1 hour
- **Highly sensitive:** Detects as low as  $1 \times 10^2$  CFU/ml
- **Specific:** No cross reactivity
- **Stable:** The kit can be kept 1 year at -20°C

### Mycoplasma detection with MycoStrip™



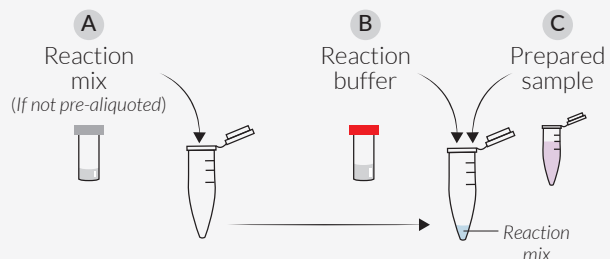
Detection of cell culture contaminating mycoplasma by MycoStrip™ is based on isothermal PCR. Simply prepare your sample and add our proprietary Reaction Mix to target and amplify the 16S rRNA gene for the most commonly found mycoplasma species in cell culture. These include the six species that account for 95% of all contaminations (see above). Importantly, there is no cross-reactivity with any other tested bacterial, fungal, or mammalian DNA.

PRODUCT	DESCRIPTION	QTY	CAT. CODE
MycoStrip™	Mycoplasma contamination detection kit (strips)	10 tests	rep-mys-10
		20 tests	rep-mys-20
		50 tests	rep-mys-50
		100 tests*	rep-mys-100

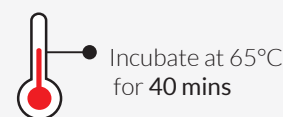
\*Without cassettes

### MycoStrip™ Protocol

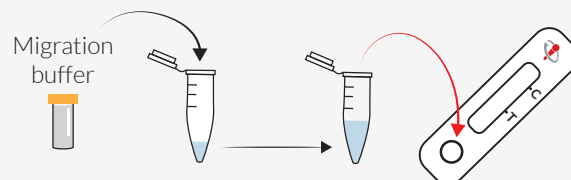
01 Combine: Sample + Reaction mix + Reaction buffer



02 Perform isothermal PCR



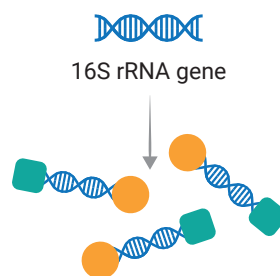
03 Add Migration buffer and transfer sample onto the cassette



04 Wait 2 to 5 minutes for results



Mycoplasma & Acholeplasma



Immuno-chromatographic strip

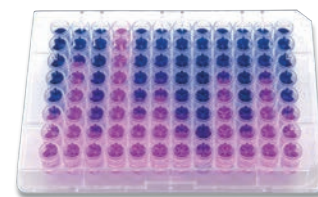
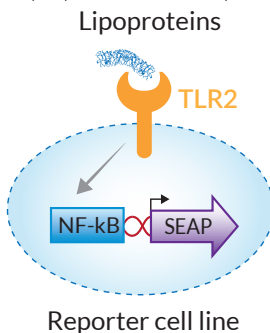
[www.invivogen.com/mycostrip](http://www.invivogen.com/mycostrip)

# PlasmoTest™

- **Recommended for routine tests**
- **Simple:** Colorimetric detection in cell culture supernatant
- **Rapid:** Hands-on time <1 h. Results overnight.
- **Sensitive:** LOD 5.102 - 5.105 CFU/ml of culture supernatant

PlasmoTest™ relies on Toll-like receptor 2 (TLR2), the preferential pattern recognition receptor (PRR) for **mycoplasma lipoproteins**. Our proprietary **HEK-Blue™-2 cells** stably express human TLR2 and an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. They are cultured in HEK-Blue™ detection medium, make them ideal for routine tests. **The simple addition of test samples** to these cells provides **colorimetric results** with sensitivity similar to luminescence-based biochemical assays. SEAP activity can be measured at 620-655 nm using a spectrophotometer. The absorbance is in direct proportion to the amount of contaminants. For your convenience, HEK-Blue™-2 cells are provided with Normocin™, an antibiotic cocktail to prevent cell culture contamination with mycoplasma, bacteria, and fungi.

Mycoplasma & Acholeplasma



Purple/blue: Positive  
Pink: Negative

Colorimetric read-out

## MYCOPLASMA DETECTION METHODS

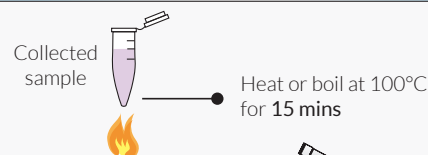


	MycosStrip™	PlasmoTest™
Target	16S rRNA gene	Lipoproteins
Method	Isothermal PCR	Reporter bioassay
Ease of use	++++	++
Specificity	At least the 8 most common species	
Sensitivity	10 <sup>-10</sup> CFU/ml	10 <sup>2</sup> -10 <sup>5</sup> CFU/ml
Experiment duration	<1 hr	<1 hr (hands on) OVN (incubation)
Additional equipments/ reagents	Heating bath/block	Incubator Spectrophotometer
Naked-eye data visualization	Yes	Yes
Cost	Reasonable	Cost-effective

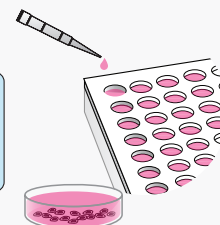
[www.invivogen.com/plasmotest](http://www.invivogen.com/plasmotest)

## PlasmoTest™ procedure

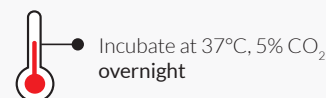
- 01 Inactivate endogenous alkaline phosphatase in the sample



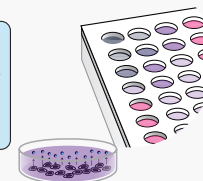
- 02 Add heated sample to HEK-Blue™-2 sensor cells cultured in HEK-Blue™ detection medium



- 03 Mycoplasma lipopeptide detection by HEK-Blue™-2 cells



- 04 SEAP reporter activity
  - Naked-eye: Purple/blue: Positive  
Pink: Negative
  - Measure OD 620-655nm (optional)



## WHAT IF MY TEST IS POSITIVE ?

Your culture is easily treatable with InvivoGen's anti-mycoplasma reagents.

Treat your culture and eradicate the contamination using **Plasmocin™** or **Plasmocure™**. Upon completion of the treatment (~2 weeks), re-test using MycosStrip™ or PlasmoTest™ comparing your newly treated culture with your previous sample.

PRODUCT	DESCRIPTION	QTY	CAT. CODE
PlasmoTest™	Mycoplasma contamination detection kit (cells)	1 kit (250 tests)	rep-pt1
PlasmoTest™ Controls	Controls for PlasmoTest™ detection kit	200 tests	pt-ctr2
PlasmoTest™ Refills	Reagents for PlasmoTest™ detection kit	500 samples	rep-ptrk

# ELIMINATION OF MYCOPLASMA

## A preventive & removal treatment

### Plasmocin™

- **Recommended for broad mycoplasma elimination**
- **Fast:** Rescues cell cultures in 2 weeks
- **Safe:** Little to no toxicity on mammalian cells
- **2 formats:** Prophylactic and Treatment

**Plasmocin™**, a frequently cited mycoplasma removal agent<sup>7-11</sup>, is effective against all common mycoplasma strains, both extracellular and intracellular. For maximum efficiency, Plasmocin™ contains a formulation of two antibiotics: the first one blocks protein synthesis, and the second one stops DNA replication. A component of Plasmocin™ is actively transported into mammalian cells, ensuring that following treatment, cell cultures do not become re-infected. Thus, Plasmocin™ is more effective than other reagents on the market in eradicating mycoplasma and preventing resistant strain generation<sup>7</sup>.

- **Plasmocin™ prophylactic** is a product that can be used on a regular basis to prevent mycoplasma contaminations.
- **Plasmocin™ treatment** is intended for mycoplasma elimination within 2 weeks.

## An alternative removal treatment

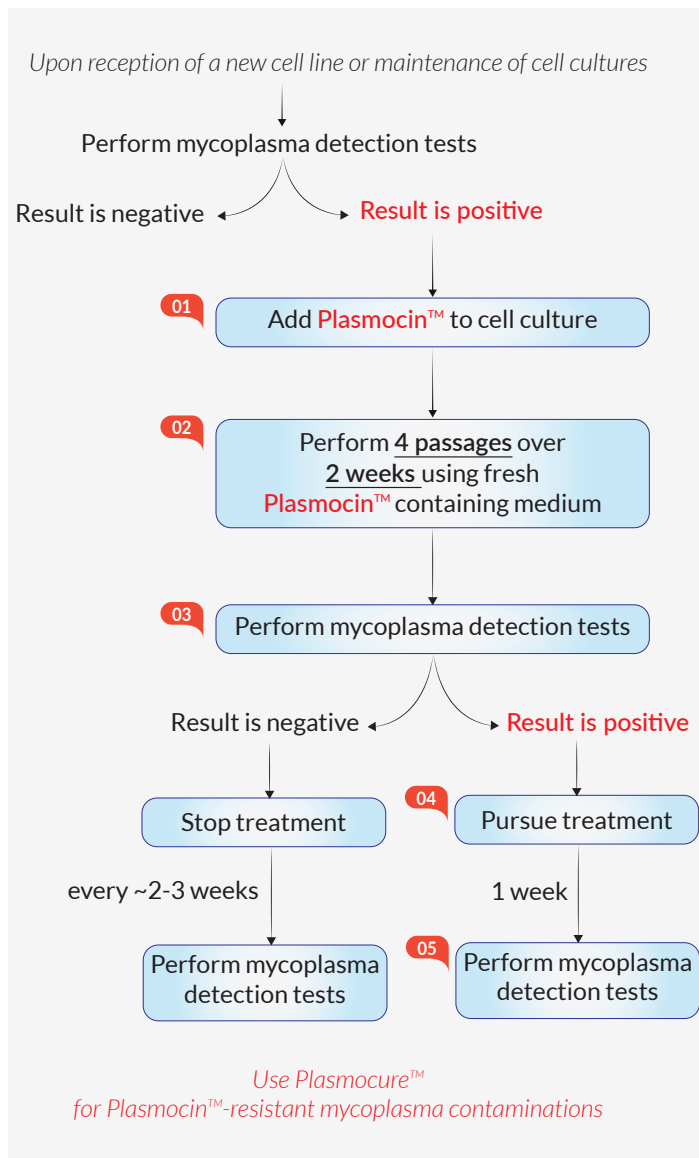
### Plasmocure™

- **Recommended for Plasmocin™-resistant strains**
- **Fast:** Rescues cell cultures in 2 weeks
- **Safe:** Little to no toxicity on mammalian cells
- **Reliable:** Extremely low mycoplasma regrowth rate

**Plasmocure™** is a **second-line anti-mycoplasma reagent** that potently eradicates Plasmocin™-resistant mycoplasma<sup>12</sup>. It combines two antibiotics that act through different mechanisms than those found in Plasmocin™. 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 **isoleucine incorporation** into mycoplasma proteins.

A two-week treatment with Plasmocure™ is usually sufficient to completely eliminate mycoplasma. If mycoplasma elimination is not completed after two weeks, Plasmocure™ can be administered for an additional week. A moderate slowdown of cell growth may be observed, but full recovery of the cell line is expected once mycoplasma are eliminated.

InvivoGen has over 40 years of experience in developing anti-mycoplasma solutions for the scientific community. Plasmocin™ and Plasmocure™ are unique anti-mycoplasma reagents that combine two distinct sets of antibiotics in a single ready-to-use product. They act fast with little to no cytotoxicity, ensuring you save precious cell lines and data.



PRODUCT	QTY	CAT. CODE
Plasmocin™ prophylactic	25 mg (10 x 1 ml)	ant-mpp
Plasmocin™ treatment	25 mg (1 x 1 ml) 50 mg (2 x 1 ml)	ant-mpt-1 ant-mpt
Plasmocure™	100 mg (1 ml)	ant-pc