PhoenixDx® Mycoplasma Mix

Contamination with mycoplasma is amongst the most notorious issues associated with cell cultivation. Depending on cell type, source and culture methods, the contamination with mycoplasma, acholeplasma and ureaplasma varies between 15 and 80%[1]. A contamination is not only inconvenient, but also a costly issue as it often requires the elimination of precious cultures.

Furthermore, the clinical use of cultured cells makes testing for mollicutes a necessity, especially for pathogens like *M. pneumoniae*, *M. genitalium* and *M. hominis*. **PhoenixDx®** offers a fast, sensitive and highly specific detection system for more than 130 mollicute species to provide certainty when certainty is needed.

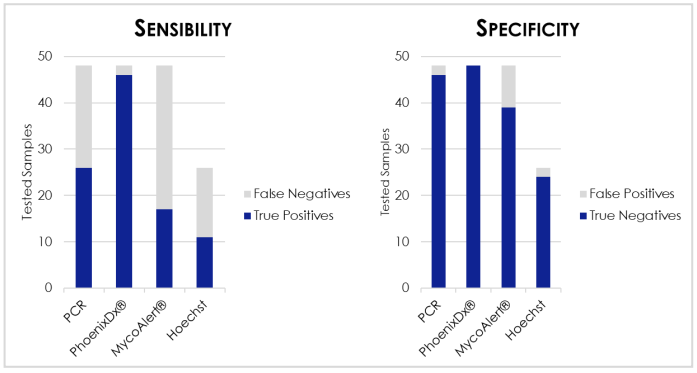
qPCR for fast, sensitive and specific detection of mollicutes

Especially when working with virus samples in the cell culture, qPCR is superior to conventional detection methods as high concentrations of enveloped viruses can bias colorimetric methods like ATP conversion[2].

With **PhoenixDx® Mycoplasma Mix,** the 16s rDNA of more than 130 *mollicute* species is targeted covering *Mycoplasma*, *Acholeplasma* and even *Ureaplasma*, whereas genomic, eukaryotic DNA (e.g. from the cell culture) is not amplified.

To exclude false-negatives due to PCR inhibition, an additional PCR positive control is included in the mastermix.

PhoenixDx® Mycoplasma Mix is not only highly specific, but also easy and fast to use due to its convenient **2x mastermix** formulation.



qPCR as a means of mycoplasma detection excels conventional methods like Hoechst staining in terms of sensibility and specificity.

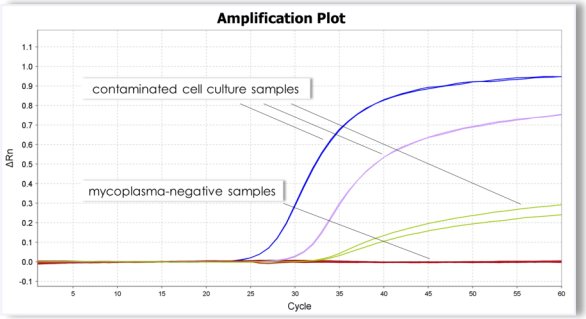
The PhoenixDx® Mycoplasma Mix includes:

- Primers for the amplification of the 16s rDNA region
- A **PCR Positive control**
- **FAM** Probe for the detection of *mollicutes*
- **HEX** Probe for the detection of the PCR Positive Control
- **dUTP** for optional UNG treatment
- **Taq-antibody** and VitaTaq® Polymerase for High Performance and **HotStart** Control
- **optimized buffer system** for an efficient lysis of intact mollicute cells
- **universal ROX concentration** for maximum instrument compatibility

Application Data of PhoenixDx® Mycoplasma Kit

Specificity

PhoenixDx® Mycoplasma Mix was extensively tested for specificity against 45 non-mycoplasma DNAs. The specificity test covered viral DNA, bacterial DNA, fungal DNA and human DNA to exclude cross-reactivity with the human DNA present in cell culture environment.



PhoenixDx® Mycoplasma Mix specifically detects mycoplasma from contaminated cell culture samples (blue) and contaminated virus-propagating cell cultures (purple and yellow).
Other potentially present DNAs (45 in total, human, viral, fungal and bacterial) were not detected

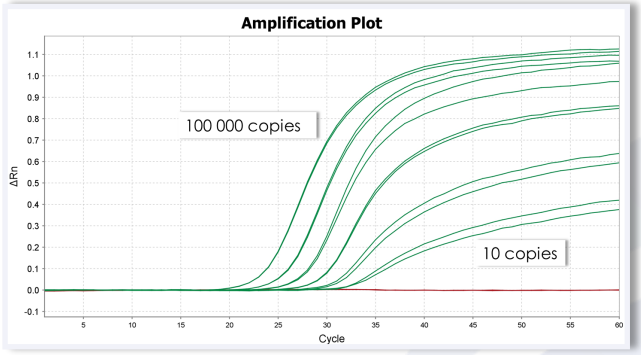
PhoenixDx® Mycoplasma Mix was tested against the species listed, primer sequences were evaluated for specificity with bio-informatical means for other mollicute species.

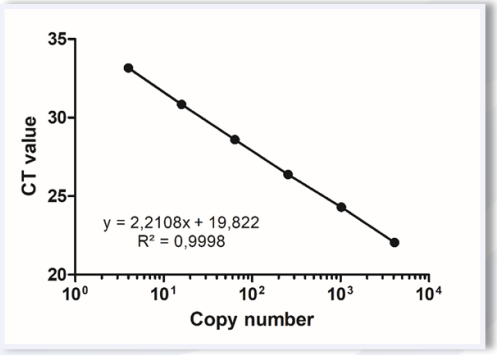
Organism tested	Detection with PhoenixDx® Mycoplasma Mix
M. arthritidis	+
M. penetrans	+
M. pirum	+
M. synoviae	+
M. pneumoniae	+
M. genitalium	+
U. urealyticum	+
U. parvum	+
A. laidlawii	+

Organism tested	Detection with PhoenixDx® Mycoplasma Mix
M. orale	+
M. mycoides	+
M. capricolum	+
M. arginini	+
M. fermentans	+
M. hominis	+
M. hyorinis	+
M. salivarium	+
M. gallisepticum	+

Linearity & Sensitivity

PhoenixDx® Mycoplasma Mix was evaluated for linearity and sensitivity using a dilution series of mycoplasma DNA from 100 000 copies to 1 copy.





⇒ **PhoenixDx® Mycoplasma Mix** exhibits linearity over a broad range of target DNA input down to **8** copies of a mycoplasma genome can be detected.

PhoenixDx® Mycoplasma Mix…

- is **more sensitive** than staining methods (detection of less than 10 genomes /reaction)
- is **specific** (conserved 16s rDNA target for mollicutes)
- is **reliable** (internal PCR positive control)
- has **less false-positive results** than enzyme-based methods
- has **less false-Negative results** than enzyme-based methods
- requires **short hands-on time** and results can be obtained in less than 2 hours

References

1) Langdon SP: Cell culture contamination: An overview. Methods Mol Med 2004;88:309–317.

2) Jean A. et al.: Assessing mycoplasma contamination of cell cultures by qPCR using a set of universal primer pairs targeting a 1.5 kb fragment of 16S rRNA genes. PLoS One. 2017 Feb 22;12(2):e0172358. doi: 10.1371/journal.pone.0172358. eCollection 2017.

Ordering Information

	Cat.No.	Content
PhoenixDx® Mycoplasma Mix	PCCSKU15209	1 ml 2X Mastermix

Sufficient for :

Reaction Volume	Number of reactions
40 µl	50
20 µl	100
10 µl	200
5 µl	400

For information about pricing, ordering and our full portfolio, visit us at

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