thermoscientific

Product Specification Sheet

Mycoplasma / Ureaplasma Enrichment Broth

Intended Usage: Mycoplasma / Ureaplasma Broth is an enrichment medium which supports the growth of *Mycoplasma* and *Ureaplasma* species from genital and respiratory samples. The device is used in a diagnostic workflow to aid clinicians in determining potential treatment options for patients suspected of having Mycoplasma and Ureaplasma infections.

The device is for professional use only, is not automated and nor is it a companion diagnostic.

	TV5081A
Version: 08	Revision Date: September 2023

Thermo Scientific™ Mycoplasma / Ureaplasma Enrichment Broth

Form of Product	Poured tube
Storage	2 – 12°C, dark
Filling weight	1.8 – 2.2g
Packaging	50 tubes in a box
pH	6.4 ± 0.2
Appearance	Sun yellow, transparent
Shelf life	12 weeks
Intended Usage	A selective medium for the detection, cultivation and presumptive identification of *Mycoplasma* and *Ureaplasma* species. For professional use only.
Technique	Depends on the different methods. For information see product information.

*Adjusted as required to meet performance standards.

Typical formulation*	g/l
Bacteriological peptone	10.0
'Lab Lemco' (meat extract)	10.0
Sodium chloride	5.0
Mineral supplement	0.5
Horse serum	200.0 ml
Yeast extract	25.0
Vitox supplement	5.0 ml
L-Cysteine HCl	0.1
Urea	1.0
Arginine	5.0
Phenol red	0.02
Antibiotic mixture	0.05

Quality Control

1. Control for general characteristics, labelling and printing.

2. Contamination check
   ≥ 72 h @ 20 – 25 °C, aerobic
   ≥ 72 h @ 30 – 35 °C, aerobic

3. Microbiological control

Positive Controls	Growth
Inoculum < 500 colony forming units (cfu), control medium MU Mycoplasma/ Ureaplasma Incubation conditions: 48 h @ 36 ± 1°C, anaerobic	
Mycoplasma hominis ATCC® 14027™	Good growth, colour shift to orange-red.
Ureaplasma urealyticum ATCC® 27618™	Good growth, colour shift to red.

Negative Controls	Growth
Inoculum ≥ 10^4 cfu, quantitative, control medium TSA Incubation conditions: 48 h @ 36 ± 1°C, anaerobic	
Staphylococcus aureus ATCC® 6538™	No turbid growth. No colour change.
Escherichia coli ATCC® 25922™	No turbid growth. No colour change.

ATCC® registered trademark of American Type Culture Collection.

Description

Mycoplasma and *Ureaplasma* species are parasites on the surface of human and animal epithelium cells. Because some metabolic pathways are missing they are completely dependent on their hosts which deliver them the essential growth factors. So besides the rich peptone base the medium includes the necessary nutrients (Vitox, cysteine, yeast extract, urea and horse serum) which are *in vivo* offered by the host. Mycoplasma / Ureaplasma Enrichment broth is designed for the detection, cultivation and presumptive identification of *Mycoplasma hominis* and *Ureaplasma urealyticum* mainly from urogenital specimen. Additionally, it can be used as a transport medium for those target organisms. The pH of 6.4 is ideal for the growth of *U. urealyticum*. The antibiotic mixture inhibits most gram-negative and gram-positive bacteria as well as yeasts which might be present in the specimens. *Mycoplasma* species hydrolyse arginine which results in a pH increase because ammonia is generated. The colour of the broth changes from yellow into orange-red. *Ureaplasma urealyticum* is not able to metabolize arginine but cleaves urea which results in a pH increase as well. The colour of the broth turns from yellow into red.

Technique

Mycoplasma and *Ureaplasma* species are very sensitive to desiccation because of the lack of a cell wall. So for transportation all specimens should be inoculated into a liquid transportation medium[1,2], such as Mycoplasma / Ureaplasma Enrichment Broth (TV5081A). Inoculate Mycoplasma / Ureaplasma Enrichment broth with a urogenital swab sample, sperm or urine. Incubate anaerobically for 24 hours up to 1 week at 36 ± 1°C. A colour shift from yellow to orange-red / red indicates the growth of *Mycoplasma* species / *Ureaplasma* species. For further identification inoculate a suitable solid medium, e.g. Mycoplasma / Ureaplasma Agar (PO5081A) with one or more drops of the grown broth and incubate the medium on the same conditions as before.

Literature

1. Elke Halle, Renate Bollmann, H. Blenk, Irina Dawydowa, H. Halle, W.R. Heizmann, U.B. Hoyme, Ch. Jantos, Helga Meisel, H. Näher, W. Weidner; MIQ – Qualitätsstandards in der mikrobiologisch-infektiologischen Diagnostik 11/2000; Genitalinfektionen Teil II; Seite 65-67; Urban & Fischer Verlag, München-Jena.
2. F. Burkhardt (Hrsg.); Mikrobiologische Diagnostik; Seite 309-314; Georg Thieme Verlag Stuttgart-New York.