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Product Specification Sheet

Mycoplasma / Ureaplasma Agar

Intended Usage: A medium for the detection and isolation 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.

	PO5081A
Version: 13	Revision Date: September 2023

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Thermo Scientific™ Mycoplasma / Ureaplasma Agar

Form of Product	Poured plate
Storage	2– 12°C, dark
Filling weight	13.5 g ± 5 %
Packaging	10 plates wrapped in film
pH	6.2 ± 0.2
Appearance	Traffic yellow, transparent
Shelf life	6 weeks
Intended Usage	A selective medium for the detection, isolation and enumeration of *Mycoplasma* and *Ureaplasma* species mainly in urogenital specimens. For professional use only.
Technique	Depends on the different methods. For information see product information.

Typical formulation*	g/l
Pancreatic digest of casein	13.6
Papaic digest of soybean meal	2.4
Sodium chloride	4.0
Dibasic potassium phosphate	2.0
Glucose	3.0
Manganese (II) sulphate Monohydrate	0.16
Horse serum	100.0 ml
Yeast extract	2.5
L-Cysteine HCl	0.359
Urea	1.0
Antibiotic mixture	0.05
Phenol red	0.03
Vitamin B_{12}	0.0001
L-Glutamine	0.1
Adenine	0.01
Guanine	0.0003
p-Aminobenzoic acid	0.00013
L-Cystine	0.011
NAD (Coenzyme 1)	0.0025
Cocarboxylase	0.001
Ferric nitrate	0.0002
Thiamine	0.00003
Agar	10.0

*Adjusted as required to meet performance standards.

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: tested by direct streaking method, < 500 colony forming units (cfu), qualitative, control medium MU Mycoplasma/Ureaplasma Incubation conditions: 48 h @ 36 ± 1°C, anaerobic	
Mycoplasma hominis ATCC®14027™	Typical “fried-egg” colonies.
Ureaplasma urealyticum ATCC®27618™	Dark brown “sea urchin” colonies. Medium around colonies turns into red.

Negative Controls	Growth
Inoculum ≥ 10^4 cfu, quantitative, control medium TSA Incubation conditions: 48 h @ 36 ± 1°C, anaerobic	
Staphylococcus aureus ATCC®6538™	Complete inhibition (≤ 10 cfu).
Escherichia coli ATCC®25922™	Complete inhibition (≤ 10 cfu).
Inoculum 10^3 – 10^4 cfu, qualitative, control medium SAB Incubation conditions: 48 h @ 36 ± 1°C, anaerobic	
Candida albicans ATCC®10231™	No to inhibited growth.

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Description

Mycoplasma and *Ureaplasma* species are parasites on the surface of human and animal epithelium cells. Some metabolic pathways are missing so they are completely dependent on their hosts which deliver them the essential growth factors. As well as the rich peptone base the medium includes the necessary nutrients (Vitox, cysteine, yeast extract, urea and horse serum) which are *in vivo* supplied by the host. Mycoplasma / Ureaplasma Agar is designed for the detection and enumeration of *Mycoplasma* and *Ureaplasma* species mainly from urogenital specimen. The antibiotic mixture inhibits most gram-negative and gram-positive bacteria as well as yeasts which might be present in the specimens. The colourless colonies of *Mycoplasma hominis* form the typical “fried egg” appearance (growth density dependent). Colonies of *Ureaplasma urealyticum* are dark-brown and grow in typical “sea urchin” morphology. *U. urealyticum* metabolizes urea which results in a pH shift to alkaline conditions. Therefore, manganese sulphate is oxidised into manganese oxide which is incorporated by *U. urealyticum* which gives the dark brown colour of the colonies. The pH shift leads to the colour shift of the pH indicator phenol red. As a consequence, the medium around the *Ureaplasma* colonies turns from yellow into red.

Technique

Mycoplasma species are very sensitive against desiccation because 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). Mycoplasma / Ureaplasma Agar should be inoculated with a few drops of the liquid or of urine. The inoculum is not streaked out as the colonies grow especially at the edge of the drop. The plates are incubated for at least 48 hours at 36°C under anaerobic conditions. After the incubation time, the medium is examined with a (stereo) microscope for growth of mycoplasmas and / or ureaplasms. If there is no growth after 2 days, the plates should be incubated for a total of 7 days and checked daily.

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.