



Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Mycoplasma Synoviae Medium Base

Product Code: DM 1624

Application: - Mycoplasma Synoviae Medium Base with supplements is recommended for cultivation of avian strains of *Mycoplasmas*.

Composition**

Ingredients	Gms / Litre
Calf brain, infusion from	2.0
Beef heart, infusion from	2.5
Proteose peptone	10.000
Sodium chloride	5.000
Disodium phosphate	2.500
Dextrose	2.000
Yeast autolysate	5.000
Tris buffer	0.250
2,3,5-Triphenyl tetrazolium chloride	0.050
Final pH (at 25°C)	8.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Genus *Mycoplasma* belongs to the class Mollicutes characterized by absence of cell wall, small genome and low G + C content, and were first recognized from a case of pleuropneumonia in a cow. (1). The organism was designated "pleuropneumonia-like organism", or PPLO.

For the cultivation of *Mycoplasma* the medium ingredients and all the supplements should be free of any toxic substances even in small amounts. Calf brain infusion from, beef heart infusion from and proteose peptone provide nitrogen, vitamins, amino acids and carbon sources. Sodium chloride maintains the osmotic balance. Many *Mycoplasma* require serum for their good growth and also presence of antibiotic is necessary to prevent the growth of contaminating organisms. Mostly the *Mycoplasma* species are aerobic or facultatively anaerobic but some are microaerophilic. Few are anaerobic saprophytic *Mycoplasma* which grow best at 22-35°C while pathogenic strains grow at 35°C.

Mycoplasma Synoviae Medium contains yeast autolysate which is a rich source of Nicotinamide Adenine Dinucleotide (NAD) required by *Mycoplasma synoviae*. Calf brain and beef heart infusion along with the proteose peptone provide organic nitrogen, carbon, sulphur, vitamins and trace elements. Tris buffer and disodium phosphate buffers the medium. Horse serum provides growth factors including lipid compounds to *Mycoplasma*. TTC helps to identify TTC reducing *Mycoplasmas* (2). Penicillin and thallium acetate are added to the medium to inhibit bacterial growth.

Methodology

Suspend 29.33 grams of dehydrated media powder in 1000 ml distilled water. Mix thoroughly & heat with frequent agitation and boil for one minute. Dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity

Yellow coloured clear to slightly opalescent solution





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Reaction

Reaction of 4.23% w/v aqueous solutions at 25°C. pH : 8.0±0.2

pH Range

7.80-8.20

Cultural Response

DM 1624: Cultural characteristics observed in presence of 10% Carbon dioxide (CO₂), with added sterile Horse Serum (BA 2239) and 1,000,000 units Penicillin and 0.25 gram thallium acetate, after an incubation at 35-37°C for 36-72 hours .

Organism

Growth

Cultural Response

Mycoplasma gallinarium ATCC 19708 good-luxuriant

Mycoplasma synoviae ATCC 25204 good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Forbes. A. B., Sahm D. F., 2002, Bailey and Scott's Diagnostic Microbiology, 11th Ed., The C.V. Mosby Co., St. Louis.
2. Bauriaud R., Seror C., Lareng M. B., Lefevre J. C.,1992, Pathologie Biologie, 40, 479-482.

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