



Mycoplasma Synoviae Medium Base

M624

Mycoplasma Synoviae Medium Base with supplements is used for cultivation of avian strains of *Mycoplasmas*.

Composition**

Ingredients	Gms / Litre
Calf brain, infusion from	200.000
Beef heart, infusion from	250.000
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

Directions

Suspend 42.3 grams in 900 ml distilled water. Mix well to dissolve the medium completely. Sterilize by filtration and aseptically add 100 ml sterile Horse Serum (RM1239) and 1,000,000 units Penicillin and 0.25 gram thallium acetate. Mix well before dispensing.

Principle And 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 PLO.

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.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent solution

Reaction

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

pH

7.80-8.20

Cultural Response

M624: Cultural characteristics observed in presence of 10% Carbon dioxide (CO₂), with added sterile Horse Serum (RM1239) 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	
<i>Mycoplasma gallinarium</i> ATCC 19708	good-luxuriant
<i>Mycoplasma synoviae</i> ATCC 25204	good-luxuriant

Storage and Shelf Life

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

Reference

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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