Friss Solid Medium Base

M1929

Recommended for the detection of non-avian Mycoplasmas in pharmaceutical products in accordance with European pharmacopoeia

Composition**

Ingredients	Gms / Litre
Sodium chloride	0.800
Magnesium sulphate, heptahydrate	0.010
Magnesium chloride, hexahydrate	0.010
Calcium chloride, anhydrous	0.014
Disodium hydrogen phosphate, dihydrate	-
Dipotassium hydrogen phosphate,anhydrous	0.060
Potassium chloride	0.400
DEAE- dextran	0.100
Agar	7.830
Final pH (at 25°C)	7.4 -7.45

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 8.8 grams in 100 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15bs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add 870 ml of Friss Liquid media. Mix well and dispense as desired.

Principle And Interpretation

Mycoplasmas (mollicutes) are the smallest free-living microorganisms (1). Earlier *Mycoplasmataceae* were given the general title of pleuropneumonia like organism (PPLO), because of similarities to *Mycoplasma mycoides* (subsp. mycoides), the causative agent of bovine pleuropneumonia (2). Although some species are normal human respiratory tract flora, *Mycoplasma pneumonia* is an important cause of pneumoniae and a major cause of respiratory disease. *Mycoplasma hominis, Mycoplasma genitalium* and *Ureaplasma urealyticum* are important colonizers (and possible pathogens) of the human genital tract.

This medium is recommended by European pharmacopoeia (3) for the detection of non-avian mycoplasma. The optimum growth conditions are 35-38°C under microaerophilic conditions.

For the cultivation of *Mycoplasma* the medium ingredients and all the supplements should be free of any toxic substances even in small amounts. Proteose peptone, peptone, yeast extract, calf brain infusion from and beef heart infusion from powder provide nitrogen, vitamins, amino acids and carbon sources. Sodium chloride maintains the osmotic balance. Many *Mycoplasma* require serum which is supplemented by horse serum and swine serum in the medium for their good growth. The 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. Sodium chloride maintains the osmotic balance. Phosphates buffer the medium. Other inorganic salts supply the necessary ions. DEAE -Dextran enhances the growth of some *Mycoplasma* species on Agar medium (4).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Semisolid to slightly firm gel comparable to 0.78% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel .

pH

7.40-7.45

Cultural Response

Cultural response observed after addition of 100 ml of this medium to 970 ml of Friss Mycoplasma Broth Base (M1928) and after an incubation at 35-38°C for 48 hours to one week under microaerophilic condition.

Cultural Response

Organism	**Growth**
Cultural Response	
Acholeplasma laidlawii ATCC 23206	good-luxuriant
Mycoplasma gallisepticum NCTC 10115	good-luxuriant
Mycoplasma hyorhinis NCTC 10130	good-luxuriant
Mycoplasma orale ATCC 23714	good-luxuriant
Mycoplasma pneumoniae ATCC 15531	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.Murray P.R., Baron E. J., Pfaller M.A., Tenover F.C., Yolken R.H.(Eds.),1995, Manual of Clinical Microbiology, 6th Ed., ASM Press.
2.Collee J.G, Fraser A.G., Marmion B.P., Simmons. A (Eds.), 1996, Mackie and McCartney Practical Medical Microbiology, 14th Ed, Churchill Livingstone. 3.European Pharmacopoeia, 2014, European Dept. for the quality of Medicines 4.Tauraso, Nicola M., 1967: Effect of diethylaminoethyl dextran on the growth of Mycoplasma in agar. J Bacteriol: 1559-1564

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