

Technical Information

Frey Mycoplasma Broth Base

Product Code: DM 2050

Application: - Frey Mycoplasma Broth with horse serum is recommended for cultivation of *avian Mycoplasma*.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	7.500
Papaic digest of soyabean meal	2.500
Yeast extract	5.000
Sodium chloride	5.000
Potassium chloride	0.400
Magnesium sulphate	0.200
Disodium phosphate	1.600
Monopotassium phosphate	0.100
Final pH (at 25°C)	7.7±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Poultry flocks are susceptible to respiratory infections from a variety of agents, including *Mycoplasmas*. The common types of infections from *Mycoplasma* are chronic respiratory diseases, air sacculitis, sinusitis and synovitis. In many cases, however the infection may be identified only through serological and culture methods (1). *Mycoplasmas* require very complex media that complicates identification procedures in laboratory diagnosis (2, 3). Frey et al (4) formulated Mycoplasma Broth with horse serum for the cultivation of *avian Mycoplasma*. *Mycoplasma gallisepticum*, *Mycoplasma synoviae*, *Mycoplasma meleagridis* are few of the *Mycoplasma* species which cause infections in birds.

Casein enzymic hydrolysate, papaic digest of soyabean meal and yeast extract are the sources of organic nitrogen, carbon, sulphur, Vitamin B and trace elements. Potassium chloride, magnesium chloride and magnesium sulphate supply essential ions. Addition of inactivated horse serum serves as a source of growth factors including lipid compounds and cholesterol, a stimulant of growth (5).

Methodology

Suspend 22.3 grams of dehydrated powder media in 900 ml distilled water. Mix thoroughly & heat, if necessary, to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and add 100 ml of sterile inactivated (at 56°C for 30 minutes) Horse Serum (BA2239). Shake well before dispensing.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity

Light yellow coloured, clear to slightly opalescent solution

Reaction

Reaction of 2.23% w/v aqueous solution at 25°C. pH : 7.7±0.2

pH Range

7.50-7.90

Cultural Response

DM2050: Cultural characteristics observed in moist aerobic or anaerobic atmosphere with 5-10% carbon dioxide with added sterile inactivated Horse Serum (BA2239) after an incubation at 35-37°C for 36-72 hours.

Organism	Growth
<i>Escherichia coli</i> ATCC 25922	good - luxuriant
<i>Mycoplasma gallisepticum</i> ATCC 19610	luxuriant
<i>Mycoplasma synoviae</i> ATCC 25204	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. Jordan F. T. W., Pattison M., Alexander D. J., Faragher T., (Eds.), 2001, Poultry diseases, 5th Edi., Philadelphia, Pa: WB Saunders.
2. Hayflick and Chanock, 1965, Bacteriol. Rev., 29:185.
3. Hayflick and Stanbridge, 1967, Ann. N.Y. Acad. Sci., 143:608.
4. Frey, Hanson and Anderson, 1968, Am. J. Vet. Res., 29:2163.
5. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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