

Technical Information

Rogosa SL Broth

Product Code: DM 1407

Application: Rogosa SL Broth is used as a selective medium for cultivation of oral, vaginal and faecal Lactobacilli.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Dextrose	10.000
Arabinose	5.000
Saccharose	5.000
Sodium acetate	15.000
Ammonium citrate	2.000
Monopotassium phosphate	6.000
Magnesium sulphate	0.570
Manganese sulphate	0.120
Ferrous sulphate	0.030
Polysorbate 80	1.000
Final pH (at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Rogosa SL Broth is known as RMW Broth, it is a modification of media formulated by Rogosa, Mitchell and Wiseman^(3, 4). This media is used for isolation, enumeration and identification of Lactobacilli from foodstuffs and clinical specimens^(1, 2). Accompanying bacterial flora is suppressed due to the low pH of the medium and high concentration of sodium acetate.

Casein enzymic hydrolysate, yeast extract provide nitrogenous compounds, sulphur, trace elements and vitamin B complex, essential for growth of Lactobacilli. Dextrose, Arabinose, Saccharose are the fermentable carbohydrates. Polysorbate 80 is the source of fatty acids. Ammonium citrate and sodium acetate inhibit moulds, Streptococci and many other organisms. Monopotassium phosphate provides buffering capability. Magnesium sulphate, manganese sulphate and ferrous sulphate are sources of inorganic ions. Low pH of the medium and addition of acetic acid makes the medium selective for Lactobacilli inhibiting other bacterial flora⁽²⁾.

It is recommended that the plates should be incubated at 30°C for 5 days or 37°C for 3 days in an atmosphere of 95% hydrogen and 5% carbon dioxide⁽⁵⁾. High acetate concentration and acidic pH suppress many strains of other lactic acid bacteria. The salt in the formulation makes the medium unsuitable for isolation of dairy lactobacilli e.g. *L. lactis*, *L. bulgaricus* and *L. helveticus*^(2, 4).

Methodology

Suspend 59.72 grams of powder media in 1000 ml distilled water. Shake well & heat, if necessary, to dissolve the medium completely. Add 1.32 ml glacial acetic acid. Mix thoroughly, distribute into culture tubes or flasks. Heat to 90 - 100°C for 2-3 minutes. Cool to 45°C for direct inoculation. DO NOT AUTOCLAVE.

Quality Control

Physical Appearance

Cream to yellow homogeneous soft lumps which can be easily broken down to powder form.

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent solution in tubes

Reaction

Reaction of 6.0% w/v aqueous solution with 0.132% acetic acid at 25°C pH : 5.4±0.2

pH Range:-

5.20-5.60

Cultural Response/Characteristics

DM 1407: Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours, in presence of 5% Carbon dioxide(CO₂) and 95%H₂.

Organism	Inoculum (CFU)	Growth
<i>Lactobacillus casei</i> ATCC 9595	50-100	Good-luxuriant
<i>Lactobacillus fermentum</i> ATCC 9338	50-100	Good-luxuriant
<i>Lactobacillus leichmanni</i> ATCC 4797	50-100	Good-luxuriant
<i>Lactobacillus plantarum</i> ATCC 8014	50-100	Good-luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	≥10 ³	inhibited

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

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

Further Reading

- Downes F. P. and Ito K., (Eds.), Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
- MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore. Md.
- Rogosa M., Mitchell J. A. and Wiseman R. F., 1951, J. Bacteriol., 62, 132-133.
- Rogosa M., Mitchell J. A. and Wiseman R. F., 1951, J. Dental Res. 30:682.
- Sharpe M. L. (Ed.), 1960, Lab-Practice, 9(4): 223.

Disclaimer :

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