



Rogosa SL Broth

M407

Intended Use:

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 after addition of glacial acetic acid(at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 59.72 grams in 1000 ml distilled water. Adjust the pH of the medium with glacial acetic acid approximately (1.32 ml). Heat to boiling (90-100°C) for 3 minutes with frequent agitation to dissolve the medium completely. DO NOT AUTOCLAVE. Mix thoroughly and distribute into sterile culture tubes or flasks. Cool to 45°C for direct inoculation.

Principle And 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 also because of the high sodium acetate concentration.

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 at 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).

Quality Control

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 5.97% w/v aqueous solution after addition of glacial acetic acid at 25°C pH : 5.4±0.2

pH

5.20-5.60

Cultural Response

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

Cultural Response

Organism	Inoculum (CFU)	Growth
Cultural Response		
<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

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

Reference

- 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.

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