

## Technical Information

### Rogosa Agar, Modified

**Product Code: DM 2899**

**Application:** - Used for the selective cultivation of Lactobacilli from food.

### Composition\*\*

Ingredients	Gms / Litre
Tryptone	10.000
Yeast extract	5.000
Glucose	20.000
Potassium dihydrogen orthophosphate	6.000
Tween 80	1.000
Triammonium citrate	2.000
Sodium acetate	15.000
Magnesium sulphate.7H <sub>2</sub> O	0.575
Manganese (II) sulphate.H <sub>2</sub> O	0.110
Iron (II) sulphate.7H <sub>2</sub> O	0.034
Agar	15.000
Final pH ( at 25°C)	6.2±0.1

\*\*Formula adjusted, standardized to suit performance parameters

### Principle & Interpretation

Rogosa Agar is primarily a selective medium for the cultivation of *Lactobacillus* (1). High acetate concentration and low pH effectively suppress other bacteria, but also many strains of other lactic acid bacteria. The modification of the pH to 6.2 instead of 5.5 alters the selectivity of the medium for the whole group of lactic acid bacteria (2, 3).

Casein enzymic hydrolysate, yeast extract supply nitrogen compounds, sulphur, trace elements and vitamin B complex, essential for growth of Lactobacilli. Glucose acts as fermentable carbohydrate. Polysorbate 80 is the source of fatty acids. Ammonium citrate and sodium acetate inhibit moulds, Streptococci and many other organisms. Monopotassium phosphate buffers the medium. 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 (4). 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.

### Methodology

Suspend 74.40 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. Add 1.32 ml glacial acetic acid and mix well. DO NOT AUTOCLAVE. Shake well before pouring into sterile Petri plates.

### Quality Control

#### Appearance

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

#### Gelling

Firm, comparable with 1.5% Agar gel

#### Colour and Clarity

Light yellow coloured opalescent gel forms in Petri plates

#### Reaction

Reaction of 7.44% w/v aqueous solution with 0.132% v/v acetic acid at 25°C. pH : 6.2±0.1

#### pH Range

6.10-6.30

#### Cultural Response

DM2899: Cultural characteristics observed in presence of 5% Carbon dioxide (CO<sub>2</sub>) and 95% H<sub>2</sub> after an incubation at 35-37°C for 40-48 hours.

#### Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
<i>Lactobacillus casei</i> ATCC 9595	50-100	good - luxuriant	>=50%
<i>Lactobacillus fermentum</i> ATCC 9338	50-100	good - luxuriant	>=50%
<i>Lactobacillus leichmanni</i> ATCC 4797	50-100	good - luxuriant	>=50%
<i>Lactobacillus plantarum</i> ATCC 8014	50-100	good -luxuriant	>=50%
<i>Staphylococcus aureus</i> ATCC 25923	>=10 <sup>3</sup>	inhibited	0%

## 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. Rogosa, J., Mitchell J.A. and Wiseman, R.F. (1951) A selective medium for the isolation and enumeration of oral and fecal lactobacilli. J. Bacteriol. 62, 132-133.
2. ISO (1984) Drafts reports. Enumeration of Lactobacteriaceae in meat and meat products. ISO/TC 34/SC 6/WG 15, no. 3 and no. 5. International Organization for Standardization, Geneva.
3. Reuter, G. (1985) Elective and selective media for lactic acid bacteria. Int. J. Food Microbiol. 2, 55-68.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore. Md.
5. Sharpe M. L. (Ed.), 1960, Lab-Practice, 9(4): 223.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
- Central Drug House Pvt. Ltd. reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents. Do not use the products if it fails to meet specifications for identity and performances parameters.