Lactobacilli MRS Broth w/o Glucose

Intended Use
Lactobacilli MRS Broth w/o Glucose is a medium used for the isolation, enumeration and cultivation of *Lactobacillus* species.

Summary
Suitable for use in the cultivation of Lactobacilli from dairy products and other materials. Lactobacilli MRS Broth is based on the formulations of deMan, Rogosa and Sharpe (MRS). This medium supports luxuriant growth of Lactobacilli from oral, fecal, dairy and other sources.
It was developed by de Man, Rogosa and Sharpe to provide a medium that would support the good growth of lactobacilli, but in particular for those strains which showed poor growth in existing media such as L. brevis and L. fermenti, replacing a variable product (tomato juice). The medium is apt for the growth of lactic acid bacteria, including *Lactobacillus, Pediococcus* and *Leuconostoc.*

Principle
Enzymatic Digest of animal tissue, beef extract and yeast extract are the carbon, nitrogen and vitamin sources used to satisfy general growth requirements in Lactobacilli MRS Broth. Dextrose, a fermentable carbohydrate, is absent to allow selection using different carbohydrates. Sodium acetate is an inhibitory agent. Sodium acetate and ammonium citrate act as selective agents as well as energy sources. Potassium phosphate is the buffering agent. Magnesium sulfate and manganese sulfate provide cations used in metabolism. Polysorbate 80 is a surfactant, facilitating uptake of nutrients by Lactobacilli.

Formula*

Ingredients	**g/L**
Dipotassium Phosphate	2.0
Magnesium Sulfate	0.1
Manganese Sulfate	0.05
Beef Extract	10.0
Polysorbate 80	1.0
Sodium Acetate	5.0
Yeast Extract	5.0
Peptone Proteose	10.0
Ammonium Citrate	2.0
Final pH (at 25°C)	6.2 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store below 8°C in tightly closed container, preferably in dessicators and use freshly prepared medium. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Food and dairy samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 35.15 g of the powder in 1000 mL purified / distilled water.
2. Mix well and dissolve by heating with frequent agitation.
3. Boil for 1 minute until complete dissolution.
4. Dispense into appropriate containers and sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Yellow coloured, homogeneous powder with soft lumps.
Prepared Appearance: Medium amber coloured, clear to slightly opalescent solution forms in tubes.
Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 35 ± 2°C.

Organisms (ATCC)	Growth
Lactobacillus gasseri (19992)	Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Sharpe M. Elisabeth, Fryer T.F. and Smith D.G. (1966) “Identification of the Lactic Acid Bacteria in Identification Method for Microbiologist Part A” (Gibbs
2. B.M. and Skinner F.A. eds.) London and New York, Academic Press.
3. Briggs M. (1953) J. dairy Res., 20: 36-40
4. Reuter G. (1985) Intern. J. Food Microbiol 2: 55-68.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201120630500	Dehydrated Culture Media	500 g