

## Lactobacillus MRS Agar ISO

### Intended Use

Lactobacillus MRS Agar ISO is a medium recommended by ISO committee for isolation and enumeration of lactic acid bacteria from meat and meat products in compliance with ISO 15214:1998.

### Summary

Lactobacillus MRS Agar is based on the formulation of deMan, Rogosa and Sharpe with slight modification. It supports luxuriant growth of Lactobacilli from oral cavity, faeces, food and dairy products.

Lactobacillus MRS Agar is in accordance with ISO for the enumeration of mesophilic Lactic acid bacteria. Mesophilic bacteria are divided into two groups: Lactic Acid Starter bacteria (including *Lactococcus lactis* subsp. *lactis* and *Lactococcus lactis* subsp. *cremoris*), which are primarily used for producing lactic acid, and Aroma Producing bacteria (including *Lactococcus lactis* subsp. *lactis* biovar *diacetylactis* and *Leuconostoc mesenteroides* subsp. *cremoris*), which are primarily used for producing CO<sub>2</sub> gas and flavor.

### Principle

Enzymatic digest of casein, cara meat extract and yeast extract provide nitrogen, carbon and other elements essential for the growth of Lactobacilli. Dextrose is the carbohydrate source. Tween 80, Magnesium sulfate and Manganese sulfate provide growth factors. Sodium acetate and triammonium citrate inhibit Gram-negative organisms and certain Gram-positive bacteria. Dipotassium hydrogen phosphate functions as a buffer.

### Formula\*

Ingredients	g/L
Enzymatic Digest of Casein	10.0
Cara Meat Extract#	10.0
Yeast Extract	4.0
Triammonium Citrate	2.0
Sodium Acetate	5.0
Magnesium Sulfate Heptahydrate	0.2
Manganese Sulfate Tetrahydrate	0.05
Dipotassium Hydrogen Phosphate	2.0
Glucose	20.0
Polyoxyethylenesorbitan Monooleate (Tween 80)	1.08
Agar	12.4

Final pH (at 25°C): 5.7 ± 0.2

\*Adjusted to suit performance parameters.

#Equivalent to Meat Extract

### 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

Clinical samples - Faeces; 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 66.73 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Cool to 45-50°C.
5. Mix well and pour into sterile petridishes.

## Quality Control

**Dehydrated Appearance:** Cream to yellow, homogeneous, free flowing powder.

**Prepared Appearance:** Yellow coloured, slightly opalescent gel forms in petridishes.

**Cultural Response:** Cultural characteristics observed after an incubation at 30 ± 1°C for 72 ± 3 hours.

## Organisms (ATCC)

Organisms (ATCC)	Growth
<i>Lactobacillus sakei</i> (15521)	Good
<i>Lactobacillus lactis</i> (19435)	Good
<i>Pediococcus pentosaceus</i> (33316)	Good
<i>Escherichia coli</i> (8739)	Inhibited
<i>Escherichia coli</i> (25922)	Inhibited
<i>Bacillus cereus</i> (11778)	Inhibited

## Interpretation of Results

Refer to appropriate references and procedures for results.

## Performance and Evaluation

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

1. Directions
2. Storage
3. Expiry

## Precautions/Limitations

Organisms other than Lactobacilli may grow in these media and therefore isolates must be confirmed as Lactobacilli by appropriate biochemical testing.

## 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. Microbiology of food and animal feeding stuffs-Horizontal method for the enumeration of mesophilic lactic acid bacteria. ISO 15214:1998.
2. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, American Public Health Association, Washington, D.C.
3. Smittle R. B. and Flowers R. M., 1982, J. Food Protection, 45:977. 5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

**Product Presentation:**

<b>Cat No.</b>	<b>Product description</b>	<b>Pack Size</b>
201120030100	Dehydrated Culture Media	100 g
201120030500	Dehydrated Culture Media	500 g

 Temperature Limit	 Manufacturer	 Batch Code	 Date of Manufacture	 This way up	 Received on
 Catalogue Number	 Consult Instructions for use	 Use-by Date	 Hygroscopic keep container tightly closed	 Opened on	

Revision: 0426/VER-04

**Disclaimer**

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.

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