OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

MRS Broth (Lactobacillus MRS Broth)

Principle

Lactobacillus MRS Broth is described by DeMan, Rogosa and Sharpe (1960). Media composed of proteose peptone, meat extract (equivalent to beef extract), yeast extract, dextrose, sorbitan monooleate, ammonium citrate, sodium acetate magnesium sulfate, manganese sulfate, potassium phosphate dibasic. Proteose peptone, meat extract and yeast extract provide nitrogen, carbon, vitamins and other necessary elements. Dextrose is carbohydrate source, Sorbitan monooleate, ammonium citrate, sodium acetate, magnesium sulfate and manganese sulfate are selective agents inhibits growth of other bacteria and essential for the growth of lactobacilli.

Use: For isolation and cultivation of Lactobacillus species.

Contents*

Ingredients	Gram/Litre
Proteose Peptone	10.00
Meat Extract#	10.00
Yeast Extract	5.00
Dextrose	20.00
Sorbitan Monooleate	1.00
Ammonium Citrate	2.00
Sodium Acetate	5.00
Magnesium Sulfate	0.10
Manganese Sulfate	0.05
Potassium Phosphate Dibasic	2.00
pH at 25˚C	6.5 ±0.2

*** Formula adjusted for optimum performance and parameters # Equivalent to Beef Extract**

Directions: Dissolve 55.15 grams in 1000 ml distilled water. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45 °C and inoculate test sample aseptically. Incubate in 5% CO_2 atmosphere at 33-37°C for 24-72 hrs.

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Specimens' types analyzed

Pharmaceutical samples, clinical and non-clinical samples, food and dairy samples etc.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	**Light tan colored free flowing, homogeneous powder**
Reaction of 5.51% solution	**6.5 ±0.2 at 25 ˚C**
pH	**6.30- 6.80**
Color and clarity of ready medium	**Light amber colored opalescent solution**
Growth Promotion properties / **Indicative properties**	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
	Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h
Negative control	**Performed using sterile distilled water**

Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-72 hours in 5% CO_2.

Organism	ATCC	Inoculum	Growth
Lactobacillus fermentum	9338	50-100	Luxuriant
Lactobacillus plantarum	8014	50-100	Luxuriant
Lactobacillus casei	393	50-100	Luxuriant
Escherichia coli	8739	50-100	Inhibited
Bacillus cereus	10876	50-100	Inhibited

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. **Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.**
2. **DeMan, J. C., M. Rogosa, and M. E. Sharpe. (1960). A medium for the cultivation of lactobacilli. J. Appl. Bacteriol. 23:130.**
3. **Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.**

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