

TECHNICAL DATA SHEET

Lactobacillus Selection Agar Base

Principle

Lactobacillus Selection Agar is used for isolation and enumeration of Lactobacilli. Rogosa et al (1951) developed LBS Agar as a selective medium for isolation and enumeration of Lactobacilli from oral, fecal specimens, food and dairy products. The media is composed of tryptone, yeast extract, dextrose, sodium acetate, potassium phosphate, ammonium citrate, polysorbate 80, magnesium sulphate, manganese sulphate, ferrous sulphate, and agar. Tryptone, yeast extract and dextrose are the nitrogen and carbon sources. Polysorbate 80 provides fatty acids required for the metabolism of Lactobacilli. Selectivity of the medium is obtained due to the presence of ammonium citrate and sodium acetate, inhibit the accompanying microbial and fungal flora and also restrict swarming of colonies. In addition to that acetic acid lowers the pH which is inhibitory to many microorganisms but favors the growth of Lactobacilli. Lactobacillus on this medium appears as large, white colonies.

Use: For isolation and enumeration of Lactobacillus from foods.

Contents*

Ingredients	Gram/Litre
Tryptone	10.000
Yeast extract	5.000
Dextrose	20.000
Sodium acetate	25.000
Potassium phosphate	6.000
Ammonium citrate	2.000
Polysorbate 80	1.000
Magnesium sulphate	0.577
Manganese sulphate	0.120
Ferrous sulphate	0.034
Agar	15.000
pH at 25°C	5.5 ± 0.2

* Formula adjusted for optimum performance and parameters

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Directions: Dissolve 84.75 grams in 1000 ml distilled water containing 1.32 ml glacial acetic acid, heat with constant stirring for 1-2 minutes to dissolve the medium completely. DO NOT AUTOCLAVE. Always used freshly prepared medium. Mix well and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Food and dairy, Pharmaceutical samples, clinical and non-clinical 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	Beige colored free flowing, homogeneous powder
Reaction of 8.47% solution with 0.13% glacial acetic acid	5.5 $\pm$ 0.2 at 25 °C
pH	5.30- 5.70
Gelling	Firm comparable with 1.5% agar gel
Color and clarity of ready medium	Amber colored opalescent gel
Growth Promotion properties	Best at $\leq$ 100 CFU at 25-30 °C for 18-72 h
Negative control	Performed using sterile distilled water

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Different Microbial Response: Cultural characteristics observed in presence of 3-5% Carbon dioxide (CO₂) after an incubation at 33- 37°C for 48 hours.

Organism	ATCC	Inoculum	Growth	Recovery
<i>Lactobacillus acidophilus</i>	4356	50-100	Luxurious	≥ 60%
<i>Lactobacillus plantarum</i>	8014	50-100	Luxurious	≥ 60%
<i>Staphylococcus aureus</i>	25923	50-100	Inhibited	--
<i>Enterococcus faecalis</i>	14506	50-100	Inhibited	--
<i>Escherichia coli</i>	8739	50-100	Inhibited	--

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. 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.
3. Rogosa M, Mitchell JA, Wiseman RF (1961). A selective medium for the isolation and enumeration of oral and fecal lactobacilli. J Bacteriol.; 62:132-3.
4. Rogosa M, Mitchell JA, Wiseman RF. (1961) A selective medium for the isolation and enumeration of oral and fecal lactobacilli. J Dental Res.; 30:682.

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