

TECHNICAL DATA SHEET

Deoxycholate Lactose Agar

Principle

Deoxycholate lactose agar is consisting of peptone, lactose, sodium chloride, sodium citrate, sodium deoxycholate, neutral red and agar. Peptone is source of nitrogen, carbon and other growth factors required for growth. Lactose is the fermentable carbohydrate. Sodium chloride maintains the osmotic balance of bacteria. Sodium citrate and sodium deoxycholate inhibit growth of gram-positive bacteria. Neutral red is a pH indicator and agar is a solidifying agent. Differentiation of enteric bacilli is based on fermentation of lactose. Bacteria that ferment lactose produce acid and, in the presence of neutral red, form pink colored colonies. Bacteria that do not ferment lactose form colorless colonies. The majority of normal intestinal bacteria ferment lactose (pink colonies) while *Salmonella* and *Shigella* species do not ferment lactose (colorless colonies).

Use: For isolation and enumeration of coliforms in water, milk and dairy products.

Contents*

Ingredients	Gram/Litre
Peptone	10.000
Lactose	10.000
Sodium chloride	5.000
Sodium citrate	2.000
Sodium Deoxycholate	0.500
Neutral Red	0.030
Agar	15.000
pH at 25°C	7.1 ± 0.2

*** Formula adjusted for optimum performance and parameters**

Directions: Dissolve 42.53 grams in 1000 ml distilled water. Boil to dissolve the medium completely. **DO NOT STERILIZE BY AUTOCLAVING**, cool it to 42-45 °C and distribute aseptically in to the petri plates. Ensure complete solidification and inoculate test sample aseptically.

Note: If the medium is stored it should be sterilized by autoclave at 121°C (15 lbs) for 15 minutes.

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Specimens types analyzed

Water, food, milk 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	Pinkish beige colored free flowing, homogeneous powder
Reaction of 4.25% solution	7.10 ± 0.2 at 25°C
pH	6.90 – 7.30
Gelling	Firm comparable with 1.5% agar gel
Color and clarity of ready medium	Orange-red colored, slightly opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37°C for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37°C for 18-48 h
Negative control	Performed using sterile distilled water

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Different Microbial Response: Cultural characteristics observed after incubation at $35\pm 2^{\circ}\text{C}$ for 18-24 hours. Inoculum 50-100 CFU.

Organism	ATCC	Growth	Recovery	Color of colony
<i>Escherichia coli</i>	8739	Good	$\geq 50\%$	Pink with bile precipitate
<i>Escherichia coli</i>	25922	Good	$\geq 50\%$	Pink with bile precipitate
<i>Klebsiella aerogenes</i>	13048	Good	$\geq 50\%$	Pink
<i>Salmonella typhimurium</i>	14028	Good	$\geq 50\%$	Colorless
<i>Enterococcus faecalis</i>	14506	Inhibited	--	--
<i>Bacillus subtilis</i>	6633	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. Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Bureau of Indian standard, IS 5887 (Part7) (1999). Methods for detection of bacteria responsible for food poisoning.
Leifson, E. (1935). *New culture media based on sodium desoxycholate for the isolation of intestinal pathogens and for the enumeration of colon bacilli in milk and water*. J. Pathol. Bacteriol.40:581-599.

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