

Deoxycholate Lactose Agar

Intended Use

Deoxycholate Lactose Agar is a differential and slightly selective medium used for isolating and differentiating Gram-negative enteric bacilli and for enumerating coliforms in water, wastewater, milk and dairy products.

Summary

Deoxycholate Lactose Agar is used for the detection of coliform bacilli. This medium is a modification of Deoxycholate Agar as described by Leifson and prepared according to formula specified in Standard Methods for Examination of Dairy Products, Water and Waste Water and Food. It differs from Deoxycholate Agar by its decreased concentration of sodium deoxycholate. Pour plate method is carried out using suitable dilutions. A thin layer of additional agar can be poured over the solidified pour plates to facilitate enumeration.

Principle

Deoxycholate Lactose Agar is selective against Gram-positive organisms which are inhibited by optimum concentration of sodium deoxycholate and sodium citrate in the medium. It helps to differentiate between lactose fermenting and nonfermenting enteric bacilli. Lactose helps in differentiating enteric bacilli, as lactose fermenters produce red colonies while lactose non-fermenters produce colourless colonies. Coliform bacteria, if present form pink colonies on this medium. The degradation of lactose causes acidification of the medium surrounding the relevant colonies and the pH indicator neutral red changes its colour to red. These colonies usually are also surrounded by a turbid zone of precipitated deoxycholic acid due to acidification of the medium. Sodium deoxycholate combines with neutral red in an acidic environment, causing the dye to go out of the solution with the subsequent precipitation of deoxycholate.

Formula*

Ingredients	g/L
Proteose peptone	10.0
Lactose	10.0
Sodium Deoxycholate	0.5
Sodium chloride	5.0
Sodium citrate	2.0
Agar	15.0
Neutral red	0.03
Final pH (at 25°C)	7.1 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen

Water and wastewater sample
Food and dairy sample

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 42.53 g of the powder in 1000mL purified / distilled water. Mix thoroughly.
2. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder. Avoid overheating. DO NOT AUTOCLAVE.
3. Mix well and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Light yellow to pink coloured, homogeneous, free flowing powder

Prepared Appearance: Reddish orange to pale orange coloured, clear to slightly opalescent gel with slight precipitate forms in petridishes.

Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 35°C-37°C.

Organism (ATCC)	Growth	Colour of colony
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Typhimurium</i> (14028)	Good	Colourless
<i>Bacillus spizizenii</i> (6633)	Inhibited	-
<i>Enterococcus faecalis</i> (29212)	Inhibited	-
<i>Escherichia coli</i> (25922)	Good	Pink with bile precipitate
<i>Klebsiella aerogenes</i> (13048)	Good	Pink

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. Leifson, 1935, J. Path. Bact., 40:581.
2. Richardson (Ed.), 1985, Standard Methods for the Examination of Dairy Products, 15th ed., APHA, Washington, D.C.
3. Greenberg A. E., Eaton A. D., Clesceri L. S., (Eds.), 1998, Standard Methods for the Examination of Water and Waste Water, 20th Ed., APHA, Washington, D.C.
4. Speck M. (Ed.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201040050100	Dehydrated Culture Media	100 g
201040050500	Dehydrated Culture Media	500 g

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.
