

DEV Lactose Broth

Cat. 1421

For the detection of lactose-degrading microorganisms.

Practical information

Applications	Categories
Detection	Lactose fermenters

Industry: Water / Food



Principles and uses

DEV Lactose Broth is used especially for the identification of E.coli and coliform bacteria in bacteriological analysis of water according to German standard methods for the examination of water and drinking water.

It is not a selective medium but it is used as a presumptive medium for the detection of coliforms in water and food, and is also used for the determination of lactose fermentative bacteria. It is commonly used with Durham fermentation tubes for the examination of gas formation.

Meat peptone and beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. The fermentation of lactose is shown by the acidification of the medium that causes the pH indicator (bromocresol purple) to turn yellow, as well as by gas production in Durham tubes.

E. coli and coliforms can ferment lactose under gas production and therefore the color of the medium changes to yellow.

Formula in g/L

Bromocresol purple	0,02	Lactose	10
Beef extract	3	Meat peptone	10
Sodium chloride	5		

Preparation

Suspend 28 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution and dispense into tubes. Sterilize in autoclave at 121 °C for 15 minutes. AVOID OVERHEATING.

Instructions for use

According to the German regulations:

- Take the inoculum with a sterile loop.
- Submerge the handle into the medium and shake gently.
- Incubate at 35 °C for 44±4 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Clear beige	Purple	7,2±0,2

Microbiological test

Incubation conditions: (35 °C / 44±4 h).

Microorganisms	Specification	Characteristic reaction
Klebsiella pneumoniae ATCC 13883	Good growth	The medium changes a yellow color, Gas (+)
Salmonella typhimurium ATCC 14028	Good growth	The medium does not change to yellow color, Gas (-)
Escherichia coli ATCC 25922	Good growth	The medium changes a yellow color, Gas (+)
Enterococcus faecalis ATCC 29212	Good growth	Medium changes slightly to yellow, Gas (-)
Aeromonas hydrophila ATCC 7966	Good growth	The medium does not change to yellow color, Gas (-)

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Deutsche Einheitsverfahren zur Wasser-, Abwasser- und Schlammuntersuchung. - VCH Verlagsgesellschaft, D-6940 Weinheim.
Verordnung Über Trinkwasser und Über Wasser für Lebensmittelbetriebe vom 12. Dezember 1990. - Bundesgesetzbl., Teil I; 2613-2629 (1990).