

Specification

Medium for pre-enrichment and detection of enterobacteria and coliforms in milk and water according to ISO standards.

Presentation

20 Tubes/Durham tube
Tube 16 x 113 mm
with: 10 ± 0,2 ml

Packaging Details

16x113 mm glass tubes, ink labelled, with Durham´s tube and metal-Non injectable cap. - 20 tubes per box.

Shelf Life

12 months

Storage

8-25°C

Composition

Composition (g/l):

Gelatin Peptone..... 5.00

Meat extract..... 3.00

Lactose..... 5.00

Description /Technique

Description

Lactose Broth is a classical medium for use in the presumptive testing for coliforms and for the enrichment of *Salmonella*. This formulation is per the standards recommended by APHA, AWWA, USP-NF and ISO.

It is commonly used with Durham fermentation tubes for the detection of gas formation. If a specific volume of sample is to be inoculated this must be taken into consideration when making up the medium as the concentration must not be altered on addition of the inoculum.

Although it is not Eijkman's original formulation, this broth provides excellent results in assays of gas production at 44±1°C, which is a characteristic of *Escherichia coli*.

While preparing this medium it is important to avoid overheating and to distribute it into tubes before sterilization.

Technique

To inoculate tubes follow the standard laboratory methods or the applicable norms. (stab inoculation, loop inoculation, dilution banks, Most Probable Number (MPN) technique, pipette inoculation etc ...)

It is possible that air bubbles are generated in the Durham tube during the transport. If air bubbles are present in the Durham tube prior to inoculation, the tube should be inverted until the air is released from the Durham tube. Failure to remove air bubbles prior to inoculation may result in reading the result as a false-positive reaction in gas production.

Quality control

Physical/Chemical control

Color : yellow

pH: 6.9 ± 0.2 at 25°C

Microbiological control

Inoculate: Practical range 100±20 CFU; Min. 50 CFU (Productivity).

Microbiological control according to ISO 11133:2014/ Adm 1:2018.

Aerobiosis. Incubation at 35 ± 2°C. Reading at 24 hours.

Microorganism

Escherichia coli ATCC® 25922, WDCM 00013

Escherichia coli ATCC® 8739, WDCM 00012

Salmonella typhimurium ATCC® 14028, WDCM 00031

Enterococcus faecalis ATCC® 29212, WDCM 00087

Citrobacter freundii ATCC® 43864, WDCM 00006

Ps. aeruginosa ATCC® 27853, WDCM 00025

Growth

Good - Gas Positive

Good - Gas Positive

Good . Gas Negative

Good . Gas Negative

Good - Gas Positive

Good . Gas Negative

Sterility Control

Incubation 48 hours at 30-35°C and 48 hours at 20-25°C: NO GROWTH

Check at 7 days after incubation in same conditions

Bibliography

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- FDA (Food and Drug Administrations) (1998) Bacteriological Analytical Manual 8th ed. Rev A. AOAC International. Gaithersburg. VA. USA.
- ISO 9308-2 Standard. (1990) Water Quality - Detection and enumeration of coliform organisms, thermotolerant coliform and presumptive *E. coli* - MPN technique.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 21150:2006 Standard. Cosmetics - Detection of *Escherichia coli*.
- US PHARMACOPOEIA (2005) <61> Microbial limit test. US Pharmacopeial Conv. Inc. Rockville. MD. USA.
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