

CM 20926 – LACTOSE PEPTONE BROTH

INTENDED USE

For detection of coliform organisms in water.

PRODUCT SUMMARY AND EXPLANATION

Coliform bacteria are commonly used as bacterial indicator of sanitary quality of foods and water. It is a valuable bacterial indicator for determining the extent of faecal contamination of recreational surface waters or drinking water. Coliforms are defined as rod-shaped gram-negative organisms, which ferment lactose with the production of acid and gas when incubated at 35°C.

Lactose Peptone Broth was originally described in German Standard Methods and German Drinking Water Regulations as a non-selective enrichment and detection medium for *Escherichia coli* and other coliforms in water specimens. German standards suggest the use of MPN technique with 0.1, 1.0 and 10 ml of sample and an incubation at $36 \pm 1^\circ\text{C}$ for 44 ± 4 hours. Depending upon the sample volume the medium can be either used as single strength or triple strength. Tubes that change to yellow and eventual gas production in Durham's tubes are considered positive.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	17.000
Soya peptone	3.000
Lactose	10.000
Sodium chloride	5.000
Bromocresol purple	0.020

PRINCIPLE

This medium consists of Tryptone and Soya peptone which provide all the essential nitrogenous growth nutrients. Lactose is the fermentable sugar. Lactose fermentation and gas production form the basis for the presumptive coliform identification. Sodium chloride maintains osmotic equilibrium. Bromocresol purple is the pH indicator of the medium, which turns yellow as a result of acid production from the fermentation of lactose.

INSTRUCTION FOR USE

Dissolve 35.02 grams in 1000 ml purified/distilled water.

Heat if necessary to dissolve the medium completely.

Dispense in tubes containing inverted Durham's tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to greenish yellow homogeneous free flowing powder.
Appearance of prepared medium	: Purple coloured, clear solution without any precipitate.
pH (at 25°C)	: 7.4 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid production	Gas production	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Positive reaction, yellow colour	Positive reaction	35-37°C	24-48 Hours
Salmonella Typhimurium	14028	50-100	Luxuriant	Negative reaction	Negative reaction	35-37°C	24-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Corry J. E.L., Curtis G. D. W. and Baird R. M., 1995, Culture Media for Food Microbiology. Vol. 34, Progress in Industrial Microbiology, Elsevier, Amsterdam.
2. DIN Deutsches Institute für Normung, 1991, e.V.: Deutsche Einheitsverfahren zur Wasser-, Abwasser- und Schlammuntersuchung: Mikrobiologische Verfahren (Gruppe K), Nachweis von Escherichia coli und coliformen Keimen (K6). Reference Method DIN 38411.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. 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.

 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

*For Lab Use Only

