Product Data Sheet

EIJKMAN LACTOSE BROTH
Product No. GB-DCM-00194-1A

INTENDED USE
For differentiating E. coli from other coliforms based on their ability to liberate gas from lactose.

PRODUCT SUMMARY
Coliform organism is a term used to designate the lactose-fermenting Enterobacteria such as Escherichia coli and Enterobacter. Enterobacteriaceae forms a large group of gram-negative bacteria that inhabit intestinal tract of warmblooded animals. Therefore, they constitute the major microbial flora of human faeces. Since coliforms are readily isolated and identified, they are used as indicator organisms to check faecal contamination of food, water and other samples. E. coli is one of the common organisms involved in gram-negative sepsis and endotoxin-induced shock. Eijkman described a method for selective isolation of E. coli from faeces of warm-blooded and cold-blooded animals. This method had limitations due to the inability to obtain growth after subculturing from positive tubes incubated at 46°C, as acidity and high temperature resulted in death of the culture within 24-48 hours. Perry and Hajna modified Eijkmans original method by decreasing carbohydrate content and adding a phosphate buffer enabling to subculture E. coli after incubation at 46°C for 96 hours or longer where pH was 5.6 unlike 4.5 of Eijkman Medium. Perry modified Eijkman Medium using lactose for isolation of E. coli. This medium can also be used for bacteriological examination in water filtration control work.

Product Specifications

Ingredients	Gms / Ltr
Lactose	3.000
Tryptone	15.000
Dipotassium hydrogen phosphate	4.000
Potassium dihydrogen phosphate	1.500
Sodium chloride	5.000

PRINCIPLE
The medium consists of Tryptose and lactose which are the energy and the carbon sources respectively. E. coli ferment lactose to form acid and gas. The gas produced gets trapped in the form of gas bubbles in the inverted Durhams tubes. Phosphates buffer the medium whereas sodium chloride helps to maintain the osmotic equilibrium of the medium.

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INSTRUCTION FOR USE

- Dissolve 28.5 grams in 1000 ml purified / distilled water.
- For examination of 10 ml portions of water samples, use 57 grams per 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes with inverted Durham's fermentation tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Gas	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Positive reaction	35-37°C	48-72 Hours
Klebsiella aerogenes	13048	50-100	Poor	Positive reaction	35-37°C	48-72 Hours

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium: Light yellow coloured, clear solution without any precipitate.
pH (at 25°C) : 68±0.2

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.

This product is for research use only.

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