

CM 21249 – MUG BROMOCRESOL PURPLE BROTH W/ LACTOSE

INTENDED USE

For identification of *Escherichia coli* and coliform bacteria from water by fluorogenic assay method.

PRODUCT SUMMARY AND EXPLANATION

Escherichia coli is a member of the faecal coliform group of bacteria. Detection of *E. coli* in water indicates faecal contamination. Enzymatic assays have been developed that allow the identification of this organism. MUG-Bromocresol Purple Broth w/Lactose is used for identification of *E. coli* and coliform bacteria from water samples by a fluorogenic assay method.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Lactose	10.000
Sodium chloride	5.000
Bromocresol purple	0.020
Tryptophan	1.000
4-Methylumbelliferyl β -D-Glucuronide (MUG)	0.010

PRINCIPLE

The medium consists of casein enzymic hydrolysate and papaic digest of soyabean meal which provide carbon, nitrogen and other essential growth factors. Sodium chloride maintains the osmotic balance of the medium. The medium is supplemented with lactose as a carbon source. Bromocresol purple is a pH indicator which has yellow colour at acidic pH and purple colour at alkaline pH. Due to the fermentation of lactose, acid is produced which turns the medium yellow. Gas in the Durhams tubes after incubation indicates the presence of *E. coli* and/ or coliform bacteria. To confirm the detection, cover the culture with 5 mm layer of Kovacs indole reagent. Development of a red ring after 1-2 minutes confirms presence of *Escherichia coli*.

INSTRUCTION FOR USE

Dissolve 36.03 grams or if desired, suspend 72.06 grams in 1000 ml distilled water to prepare double strength medium.

Heat if necessary to dissolve the medium completely.

Dispense into test tubes containing inverted Durhams tubes. Sterilize by autoclaving at 115°C for 20 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Purple coloured clear solution without any precipitate.
pH (at 25°C)	: 7.0 $\pm$ 0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid production	Gas	Fluorescence (under UV)	Indole	Incubation temperature	Incubation Period
Escherichia coli	25922	50-100	Good-luxuriant	Positive reaction, yellow colour	Positive reaction	Positive (by adding 0.2N NaOH)	Positive reaction, red ring at the interface of the medium	35-37°C	18-24 Hours
Enterococcus faecalis	29212	50-100	Fair-good	Occasional reaction	Negative reaction	Negative	Negative reaction	35-37°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Good-luxuriant	Positive reaction, yellow colour	Positive reaction	Negative	Variable reaction	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	Negative reaction	Negative reaction	Negative	Negative reaction	35-37°C	18-24 Hours

PACKAGING:

Inpacksize of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°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. Kolbeck K. et al, 1992, Zbl. Hyg., 193, 31437.
2. Maddocks J. L. and Greenan M. J. (1975) J. Clin. Pathol. 28. 686-687.
3. Freir T. A. and Hartman P. A. (1987) Appl. Env. Microbiol. 53. 1246-1250.

