

CM 21482 – RAPID COLIFORM BROTH

INTENDED USE

For detection and confirmation of E.coli and other coliforms on the basis enzyme substrate reaction from water by using chromogenic and fluorogenic substrates.

PRODUCT SUMMARY AND EXPLANATION

RapidColiform Broth is a modification of LMX Broth described by Manafi and Kneifel. This medium is useful for the detection and confirmation of Escherichia coli and total coliforms in water samples on the basis of chromogenic and fluorogenic substrates. The fluorogenic substrate is split by enzyme β -D-glucuronidase specifically found in Escherichia coli. The reaction is indicated by the development of a blue fluorescence under UV light. The presence of total coliforms is indicated by bluegreen colourations due to the cleavage of the chromogenic substrate. To confirm presence of E.coli overlay the medium with Kovacs reagent. The layer turns red within 2 minutes in case of positive reaction.

COMPOSITION

Ingredients	Gms / Ltr
Peptone, special	5.000
Sodium chloride	5.000
Sorbitol	1.000
Dipotassium hydrogen phosphate	2.700
Potassium dihydrogen phosphate	2.000
Sodium lauryl sulphate	0.100
Chromogenic substrate	0.080
Fluorogenic substrate	0.050
IPTG	0.100

PRINCIPLE

This medium consists of Special peptone serves as a source of carbon and nitrogen compounds, long chain amino acids, vitamins and other essential growth nutrients. Sorbitol is the fermentable carbohydrate. The phosphate salts provide buffering action for rapid growth of coliforms. Sodium lauryl sulphate makes the medium selective by inhibiting accompanying microflora, especially the gram-positive organisms. IPTG amplifies enzyme synthesis and increases the activity of β -D-galactosidase.

INSTRUCTION FOR USE

Dissolve 16.03grams in 1000 ml purified/distilled water.

Heat if necessary to dissolve the medium completely.

Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.

Mix well and dispense as desired .

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured, clear to slightly precipitates in tubes.
pH (at 25°C)	: 6.8 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of the medium /colony	Fluorescence (under UV)	Indole production	Incubation Temperature	Incubation Period
Enterobacter aerogenes	13048	50-100	Luxuriant	Blue-green	Negative reaction	Negative reaction	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Luxuriant	Blue-green	Positive reaction	Positive reaction	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 gm and 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

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