CM 21481 – RAPID COLIFORM AGAR

INTENDED USE

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

PRODUCT SUMMARYAND EXPLANATION

The RapidColiformAgar is modification ofLMX Broth described by Manafi and Kneifel. Rapid Coliform Agar is used for the simultaneousdetection of total coliforms and Escherichia coli. This media is useful for the detection and confirmation of Escherichia coliand total coliforms in water samples on the basis of chromogenic and fluorogenic substrates. It can also be used forclinical samples.

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(1-Isopropyl-l-β-D-1-thiogalactopyranoside)	0.100
Agar	15.000

PRINCIPLE

Thismedium consists of Special peptone which is rich in tryptophan content, provides essential growth nutrients and is useful for the simultaneous detection of indole production. Sorbitol provides the carbon source. 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. The fluorogenic substrate, is split by enzyme ß-D-glucuronidase, which is specifically found in Escherichia coli. The reaction is indicated by a blue fluorescence under UV light. The presence of total coliforms is indicated by a blue-green colour of the colonies due to the cleavages of the chromogenic substrate. IPTG amplifies enzyme synthesis and increases the activity of ß-D-galactosidase. To confirm presence of E. coli, add 2-3 drops of Kovacs reagent over the suspected colony. The colony turns red within 2 minutes incaseofpositive reaction .

INSTRUCTION FOR USE

Dissolve 31.03 gramsin 1000 ml purified/distilled water.
Heat to boiling to dissolve the medium completely.
Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

Dispense into sterile petri plates.

QUALITY CONTROL SPECIFICATIONS

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

INTERPRETATION

Culturalcharacteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of the medium/ colony	Fluorescence (under uv)	Indole production	Incubation Temperature	Incubation Period
Enterobacter aerogenes	13048	50-100	Luxuriant	>=70%	Blue-green	Negative reaction	Negative reaction	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Luxuriant	>=70%	Blue-green	Positive reaction	Negative reaction	35-37°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Luxuriant	>=70%	Blue-green	Negative reaction	Negative reaction	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Luxuriant	>=70%	Yellow	Negative reaction	Negative reaction	35-37°C	18-24 Hours

PACKAGING:

Inpacksizeof100 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

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

REFERENCES

1. Rideal S.and Walker J. T. A., 1903, Examination of disinfectants, J. San. Inst., 24, 424-441.
2. United States of Food and Drug Administration Methods for Testing Antiseptics and Disinfectants, Circular No.198, December, 1931.