



CHROMOGENIC COLIFORM AGAR W/SLS

TM 1338

For simultaneous detection of total coliforms and *Escherichia coli* in water

Composition

Ingredients	Gms/Ltr.
Agar	12.00
Sodium chloride	5.00
Dipotassium hydrogen phosphate	3.00
Peptone, special	3.00
Potassium dihydrogen phosphate	1.70
Sodium pyruvate	1.00
L-Tryptophan	1.00
Chromogenic mixture	0.20
Sodium lauryl sulphate	0.10

* Dehydrated powder store, in a dry place in tightly- sealed containers below 25°C and protected from direct sunlight.

Instructions for Use

Dissolve 27.00gms in 1000 ml of distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes. Cool to 40 - 45°C. Mix well and pour into sterile Petri plates.

Note: When a high number of gram-positive bacteria are expected add 5mg/liter of Novobiocin antibiotics before autoclaving the medium

Appearance: Colourless, clear to slightly opalescent gel

pH (at 25°C): 6.8 ± 0.2

Principle

CHROMOGENIC COLIFORM AGAR W/SLS is used for simultaneous detection of total coliforms and *Escherichia coli* in water. The differentiation between Coliforms and *E. coli* is given by the presence of Chromogenic mixture Salmon-GAL, a chromogenic substrate for the detection of β-galactosidase and X-GLUC, a chromogen substrate for the detection of β- glucuronidase. Salmon-GAL is hydrolysed by coliforms releasing a salmon colour pigment; this reaction is strengthened in the medium by the presence of IPTG (isopropil-β-D-thiogalactopiranoside). X-GLUC is hydrolysed, among *Enterobacteria*, by *E. coli*, and by a few other strains of *Salmonella* and *Shigella* releasing a blue pigment. However, in the presence of the two substrates, and cleavage of these by *E.coli* results in the formation of dark blue to violet colonies. The presence of Tryptophan in the medium allows testing the indole directly onto the colonies by adding Kovac's Reagent, for the confirmation of *E. coli*. Medium contains special Peptone provides essential nutrients for growth like nitrogen, vitamins, minerals and amino acids. The combined action of Peptone and Sodium pyruvate allow rapid colony growth in this phosphate buffered medium, which also allows easy recovery of sub lethally, thermally injured, Coliforms. Sodium chloride provides the osmotic environment necessary for growth. Agar acts as the solidifying agent

PRODUCT DATA SHEET

Interpretation

Cultural characteristics observed after inoculating (10^3 CFU/ml), on incubation at $35 \pm 2^\circ\text{C}$ and 44°C for 18 - 24 hours.

Microorganisms	ATCC	Inoculum (cfu/ml)	Growth	Indole production	Appearance of colony
<i>Escherichia coli</i>	25922	10^3	Good	Positive	Dark blue to violet (red colour appears around the colony)
<i>Salmonella enteritidis</i>	13076	10^3	Good	Negative	Colourless
<i>Enterococcus faecalis</i>	29212	10^3	Inhibited	-----	-----
<i>Klebsiella pneumonia</i>	13883	10^3	Good	Negative	Light pink

References

1. Frampton E. W., Restaino L. and Blaszkowski N., J. Food Prot., 51:402. (1988).
2. LeMinor L. and Hamida F., Ann. Inst. Pasteur (Paris), 102:267. (1962).
3. Manafi M. and Kneifel W., Zentralbl. Hyg., 189:225. (1989).