HiCrome Coliform Agar w/ SLS

M1300

HiCrome Coliform Agar w/ SLS is a selective agar recommended for the simultaneous detection of *Escherichia coli* and total coliforms in water and food samples.

Composition**

Ingredients	Gms / Litre
Peptone, special	3.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	3.000
Potassium dihydrogen phosphate	1.700
Sodium pyruvate	1.000
L-Tryptophan	1.000
Sodium lauryl sulphate	0.100
Chromogenic mixture	0.200
Agar	12.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 27 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Add 5mg/l novobiocin before autoclaving the medium, when a high number of gram positive accompanying bacteria are expected.

Principle And Interpretation

HiCrome Coliform Agar w/ SLS is a selective medium recommended for the simultaneous detection of *Escherichia coli* and total coliforms in water and food samples (4). Peptone special and sodium pyruvate provide essential growth nutrients to the organisms. The phosphates buffer the medium well. The medium composition helps even the sublethally injured coliforms to grow rapidly. Sodium lauryl sulphate inhibits gram-positive organisms. The chromogenic mixture contains two chromogenic substrates. The enzyme ß-galactosidase produced by coliforms cleaves one chromogen, resulting in the salmon red colouration of coliform colonies. The enzyme ß-glucuronidase produced by *E. coli* , cleaves X-glucuronide. *E.coli* forms dark blue to violet coloured colonies due to cleavage of both the chromogens (1, 2,3). The addition of L-Tryptophan improves the indole reaction, thereby increasing detection reliability in combination with the two chromogens. To confirm *E.coli* , add a drop of Kovacs reagent (R008) on the dark-blue to violet colony. Formation of cherry-red colour indicates positive reaction.

Quality Control

Appearance
Light yellow to beige homogeneous free flowing powder

Gelling
Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium
Light yellow, clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 2.7% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH
6.60-7.00

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 24 hours (48 hours if necessary).

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony	Indole production
Citrobacter freundii ATCC 8090	50-100	good-luxuriant	>=50%	salmon to red	negative reaction
Escherichia coli ATCC 25922	50-100	good-luxuriant	>=50%	dark blue/violet	positive, confirmation of red colour around the colony by addition of Kovacs reagent (R008)
Enterobacter cloacae ATCC 23355	50-100	good-luxuriant	>=50%	salmon to red	negative reaction
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0%		
Klebsiella pneumoniae ATCC 13883	50-100	good-luxuriant	>=50%	light pink	negative reaction
Salmonella Enteritidis ATCC 13076	50-100	good	40-50%	colourless	negative reaction
Shigella flexneri ATCC 12022	50-100	good	40-50%	colourless	negative reaction

Storage and Shelf Life

Store dehydrated powder in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label.

Reference

1.Frampton E. W., Restaino L. and Blaszko N., 1988, J. Food Prot., 51:402.
2.Kilian M. and Bülow P., 1976, Acta. Pathol. Microbiol. Scand., Sect. B, 84:245.
3.LeMinor L. and Hamida F., 1962, Ann. Inst. Pasteur (Paris), 102:267.
4.Manafi M. and Kneifel W., 1989, Zentralbl. Hyg., 189:225.

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