



HiCrome Coliform Agar Modified

M1832

HiCrome Coliform Agar Modified is a selective medium recommended for the simultaneous detection of *Escherichia coli* and thermotolerant coliforms in water, milk, dairy products and other food samples.

Composition**

Ingredients	Gms / Litre
Peptone, special	8.000
Sodium chloride	1.000
Yeast extract	3.000
Potassium dihydrogen phosphate	0.200
Dipotassium phosphate	0.600
Bile Salts	0.800
Magnesium sulphate	0.200
Chromogenic mixture	0.200
Agar	10.000
Final pH (at 25°C)	7.20±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 24 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.

Principle And Interpretation

HiCrome Coliform Agar Modified is a selective medium recommended for the simultaneous detection of *E.coli* and thermotolerant coliforms in water and food samples (4). Peptone special and yeast extract provide essential growth nutrients to the organisms. The phosphates buffer the medium well. Magnesium sulphate helps colour development. Bile salts inhibits gram-positive organisms. Sodium chloride maintains osmotic balance. The chromogenic mixture contains two chromogenic substrates, which enables the detection of two specific enzymes, β -galactosidase and β -glucuronidase. β -galactosidase produced by coliforms cleaves one chromogen, resulting in the pink colouration of coliform colonies. The enzyme β -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). *E.coli* strains that are β -glucuronidase negative (serotype O157:H7) produce pink coloured colonies. Other gram negative bacteria able to grow at (44±0.5)°C produce white or colourless colonies.

Transfer 1 ml of product to analyse and its tenfold dilutions to sterile Petri plates. Pour 12 ml of medium, mix well and allow to solidify. Overlay with 4 ml of medium, allow to solidify and incubate at 43-45°C for 18-24 hours.

Quality Control

Appearance

Light yellow to beige homogeneous free flowing powder

Gelling

Firm, comparable with 1.0% Agar gel.

Colour and Clarity of prepared medium

Light yellow clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.4% w/v aqueous solution at 25°C. pH : 7.2±0.2

Cultural Response

M1832: Cultural characteristics observed after an incubation at 43-45°C for 24 hours (48 hours if necessary).

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Cultural Response				
<i>Escherichia coli</i> ATCC 10536	50-100	good-luxuriant	≥50%	dark blue/violet
<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	≥50%	dark blue/violet
<i>Enterobacter cloacae</i> ATCC 23355	50-100	good-luxuriant	≥50%	pink
<i>Enterococcus faecalis</i> ATCC 29212	≥10 ³	inhibited	0%	
<i>Klebsiella pneumoniae</i> ATCC 13883	50-100	good-luxuriant	≥50%	light pink
<i>Staphylococcus aureus</i> ATCC 25923	≥10 ³	inhibited	0 %	

Storage and Shelf Life

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

Reference

1. Frampton E. W., Restaino L. and Blaszkowski 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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