



Technical Data

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 β -galactosidase produced by coliforms cleaves one chromogen, resulting in the salmon red 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). 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 |
|------------------------------------------|-------------------|----------------|----------|------------------|---------------------------------------------------------------------------------------------|
| <i>Citrobacter freundii</i> ATCC 8090 | 50-100 | good-luxuriant | >=50% | salmon to red | negative reaction |
| <i>Escherichia coli</i> ATCC 25922 | 50-100 | good-luxuriant | >=50% | dark blue/violet | positive, confirmation of red colour around the colony by addition of Kovacs reagent (R008) |
| <i>Enterobacter cloacae</i> ATCC 23355 | 50-100 | good-luxuriant | >=50% | salmon to red | negative reaction |
| <i>Enterococcus faecalis</i> ATCC 29212 | >=10 ³ | inhibited | 0% | | |
| <i>Klebsiella pneumoniae</i> ATCC 13883 | 50-100 | good-luxuriant | >=50% | light pink | negative reaction |
| <i>Salmonella Enteritidis</i> ATCC 13076 | 50-100 | good | 40-50% | colourless | negative reaction |
| <i>Shigella flexneri</i> 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 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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