Lauryl Sulfate Chromogenic Agar

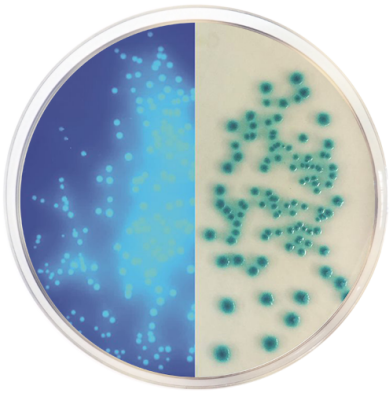
Cat. 2096

For the simultaneous detection of total coliforms and E. coli in water, foods and dairy products by the fluorescence technique.

Practical information

Aplications	Categories
Detection	Coliforms
Detection	Escherichia coli

Industry: Water / Food / Dairy products



Principles and uses

Lauryl Sulfate Chromogenic Agar allows the detection of total coliforms and E. coli count at the same time due to the chromogenic-fluorogenic mix.

This medium contains a phosphate buffer to ensure the high growth of the total number of coliforms. Lauryl sulfate inhibits Gram-positive bacteria. Coliforms and E. coli contain an enzyme which cleaves the chromogenic substrate, whereas that the enzyme which cleaves MUG, compound which emits fluorescence, is highly specific to E. coli. For this reason, this double indicator system makes the simultaneous detection of total coliforms and E. coli possible.

The color change from amber to blue-greenish due to the reaction of the chromogenic substrate indicates the presence of coliforms and the blue fluorescence under UV light allows the rapid detection of E. coli.

Tryptophane promotes the indole reaction after adding Kovac's reagent. This reactive detects the microorganism
capable of cleaving the tryptophane. When E. coli is present in the medium, indol is liberated and reacts with 4-dimethylaminobenzaldehyde to form a dark red dye.

Formula in g/L

Bacteriological agar	15	Chromogenic-fluorogenic mix	0,23
Dipotassium phosphate	2,7	Monopotassium phosphate	2
Sodium chloride	5	Sodium lauryl sulfate	0,1
Sorbitol	1	Tryptophan	1
Tryptose	5		

Preparation

Suspend 32 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in the autoclave at 121°C for 15 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Inoculate and incubate the Lauryl Sulfate Chromogenic Agar plates at a temperature of 35±2 °C during 18-24 hours.
- Check the plates under UV light (366 nm).
- Light blue fluorescence indicates the presence of E. coli.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	6,8 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 hours).

Microorganisms	Specification	Characteristic reaction
Escherichia coli ATCC 25922	Good growth	Blue-greenish colonies / Fluorescence (+)
Enterococcus faecalis ATCC 29212	Inhibited	
Citrobacter freundii ATCC 8090	Good growth	Blue-greenish colonies / Fluorescence (-)
Escherichia coli ATCC 8739	Good growth	Blue-greenish colonies / Fluorescence (+)

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Bibliography

MANAFI, M., KNEIFEL, F., a. BASCON, S.: Fluorogenic and chromogenic substrates used in bacterial diagnosis. Microbiol. Rev. 55; 335-348 (1991).OSSMER, R.: Simultaneous Detection of Total Coliforms and E. coli-Fluorocult LMX-Broth. - 15th international Symposium/FOOD MICRO 1993. The Interntional Committee on Food Microbiology and Hygiene, Bingen/Rhine (1993).