LAURYL SULFATE CHROMOGENIC AGAR

CAT Nº:2096

For the simultaneous detection of total coliforms and *E. coli* in water, foods and dairy products by the fluorogenic procedure

FORMULA IN g/l

Tryptose	5.00	Tryptophan	1.00
Sodium Chloride	5.00	Chromogenic-Fluorogenic Mix	0.23
Dipotassium Phosphate	2.70	Sodium Lauryl Sulfate	0.10
Monopotassium Phosphate	2.00	Bacteriological Agar	15.00
Sorbitol	1.00		

Final pH 6.8 ± 0.2 at 25ºC

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 45-50ºC, mix well and dispense into plates. The prepared medium should be stored at 8-15°C. The color is amber, slightly opalescent.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

USES

LAURYL SULFATE CHROMOGENIC AGAR allows the detection of total Coliform and *E. coli* count at the same time due to the Chromogenic-Fluorogenic Mix.

The combination of chromogenic compounds within Lauryl Sulfate Broth provide a double indicator system. 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. The enzyme which cleaves MUG is highly specific to *E. coli*, making 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. Blue fluorescence under UV light allows the rapid detection of *E. coli*.

Tryptophane promotes the indol 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.

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

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C and observed after 18-24 hours

Microorganisms	Growth	Colony Color	Fluorescence (366 nm)	Indol
Escherichia coli ATCC 25922	Good	Blue-greenish	+	+
Escherichia coli ATCC 8739	Good	Blue-greenish	+	+
Enterobacter aerogenes ATCC 13048	Good	Blue-greenish	-	-
Klebsiella pneumoniae ATCC 13883	Good	Blue-greenish	-	-
Citrobacter freundii ATCC 8090	Good	Blue-greenish	-	
Shigella flexnerii ATCC 12022	Good	Without change	-	
Salmonella typhimurium ATCC 14028	Good	Without change	-	

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).

STORAGE

Once opened keep powdered medium closed to avoid hydration.