

Technical Information

Coliform Broth w/SLS

Product Code: DM 2826

Application: - Coliform Broth w/ SLS is recommended as a medium for detection of *E. coli* and other *Enterobacteriaceae* in water samples.

Composition**

Ingredients	Gms / Litre
Special peptone	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	0.300
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Coliform Broth w/SLS is a selective medium used for the simultaneous detection of *Escherichia coli* and total coliforms in water and food samples (4).

Special peptone supplies the essential growth nutrients for the bacterial metabolism. The phosphates in buffers the medium. Sodium chloride maintains the osmotic balance. Sodium lauryl sulphate inhibits the gram positive organisms. L-Tryptophan in the medium improves the indole reaction. The enzyme β -glucuronidase produced by *E. coli* cleaves X-glucuronide thus imparting blue colour to the medium (1, 2, 3). Formation of cherry red colour after addition of few drops (0.5ml) of Kovac's reagent (R 1008) to the medium indicates the presence of *E. coli*.

Methodology

Suspend 15.10 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity

Cream, clear to slightly opalescent solution, may have slight precipitate.

Reaction

Reaction of 1.51% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH Range

6.60-7.00

Cultural Response

DM 2826: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Colour of Medium
Cultural Response			
<i>Citrobacter freundii</i> ATCC 8090	50-100	luxuriant	colourless
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	blue
<i>Escherichia coli</i> ATCC 35218	50-100	luxuriant	blue
<i>Enterococcus faecalis</i> ATCC 29212	$\geq 10^3$	inhibited	-
<i>Klebsiella pneumoniae</i> ATCC 13883	50-100	luxuriant	colourless
<i>Salmonella Enteritidis</i> ATCC 13076	50-100	good	colourless
<i>Shigella flexneri</i> ATCC 12022	50-100	luxuriant	colourless
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	inhibited	-
<i>Staphylococcus aureus</i> ATCC 6538	$\geq 10^3$	inhibited	-

Storage and Shelf Life

Dried Media: Store below 8°C in tightly closed container and the prepared medium at 2- 8°C. Use before expiry date on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

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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