

PRODUCT INFORMATION

Product Type: Little Dishes 50mm

Cat No. LD509 - CHROMOGENIC COLIFORM AGAR

Intended Use:

Prepared Chromogenic Coliform Agar plates are used for the simultaneous detection and enumeration of *Escherichia coli* and coliform bacteria.

For laboratory use only.

Principle and Uses:

Chromogenic Coliform Agar is a selective and differential chromogenic medium.

Nutritional & Growth Matrix: Tryptose, peptocomplex, and yeast extract deliver the elemental nitrogen, amino acids, carbon, and B-complex vitamins essential for rapid bacterial replication.

Selective Action: Bile Salts No. 3 function as selective inhibitors that suppress the development of Gram-positive organisms without impacting the target coliform population.

Osmotic Stability: Sodium chloride ensures a balanced osmotic tension to protect cells from lysing or collapsing during cultivation.

Chromogenic Coliform Differentiation: Detection of coliform bacteria is based on the ability of β -D-galactosidase to cleave the substrate salmon- β -D-galactoside with the formation of salmon red colonies. Enumeration of *Escherichia coli* is based on the detection of two enzymatic activities: β -D-glucuronidase and β -D-galactosidase, which cleave the chromogenic substrate salmon- β -D-galactoside and X- β -glucuronide, with the formation of dark blue-grey colonies. The hydrolysis of X-GAL is enhanced by IPTG, a lactose operon inducer. The tryptophane in the medium, allows the indole test to be performed directly on colonies, for confirmation of *E. coli*.

Typical reaction: detailed in Performance Testing Results section.

Limitations

Non-Target Chromogenic Interference: Select species of *Salmonella* and approximately 40% of *Shigella* can express β -D-glucuronidase enzymes and may develop blue-tinted colonies on the plate matrix.

β -glucuronidase-Negative Target Strains: Pathogenic strains like *E. coli* O157:H7 generally lack β -glucuronidase activity and will yield pink or salmon-red colonies instead of the diagnostic blue-violet color.

In addition of the expression of β -D-glucuronidase, *E. coli* is able to produce indole from tryptophan, therefore it is recommended to perform indole test directly on the colonies on the primary agar for additional confirmation.

Microbial Crowding Effects: High background counts of non-coliform Gram-negative rods (such as *Pseudomonas* species) can overgrow the plate, potentially altering or masking characteristic colony pigmentation.

Presumptive Nature: Color indications on the plates serve as presumptive identification. Final validation requires traditional confirmation testing (e.g., Oxidase or Indole tests).

Composition

Tryptose - 10.00 g/L
Tryptophan - 0.10 g/L
Peptocomplex - 5.00 g/L
Yeast Extract - 3.00 g/L
Sodium Chloride - 5.00 g/L
Bile Salts No. 3 - 1.50 g/L
IPTG (Isopropyl-β-D-thiogalactopyranoside) - 0.10 g/L
X-β-glucuronide CHX salt - 0.06 g/L
Salmon-β-D galactoside - 0.15 g/L
Agar - 13.00 g/L

Storage: 2 - 8°C
Appearance: light to pale yellow, opalescent
pH Range: 7.0 - 7.4

Package contents: 5 plates in a package
Exp. Date: Printed on label and on the item.
Required materials not supplied: Laboratory equipment as required.

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.
If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

Waste Disposal
After interpretation all plates should be destroyed by standard incineration methods.

Performance Testing Results:
GPT: inoculum 10-100 cfu.
Inhibitory properties: inoculum 10000 cfu.

TEST	ATCC	Incubation Temp. (°C)	Incubation Cond.	Reaction 1	
<i>Escherichia coli</i>	25922	33-37 °C	Aerobic, 24 hours	Growth	Blue
<i>Enterobacter aerogenes</i>	13048	33-37 °C	Aerobic, 24 hours	Growth	Mauve
<i>Pseudomonas aeruginosa</i>	27853	33-37 °C	Aerobic, 24 hours	Scanty growth	Light yellow
<i>Enterococcus faecalis</i>	19433	33-37 °C	Aerobic, 24 hours	Inhibited	

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