

Chromatic™ Coliform Agar ISO

Chromogenic medium for detection and enumeration of *E. coli* and coliform bacteria in water, according to ISO 9308-1.

TYPICAL FORMULA	(g/l)
Enzymatic Digest of Casein	1.0
Yeast Extract	2.0
Sodium Chloride	5.0
Sodium Dihydrogen Phosphate	2.2
Di-sodium Hydrogen Phosphate	2.7
Sodium Pyruvate	1.0
Sorbitol	1.0
Tryptophan	1.0
Salmon®-GAL	0.2
X-Glucuronide	0.1
IPTG	0.1
Agar	15.0
Final pH 6.8 ± 0.2 at 25°C	

DESCRIPTION

Chromatic™ Coliform Agar ISO is a selective and differential chromogenic medium used with supplements for the detection and enumeration of *Escherichia coli* and coliform bacteria in water samples with low bacterial background flora, according to ISO 9308-1.

PRINCIPLE

Enzymatic digest of casein provides amino acids, nitrogen, carbon, vitamins and minerals for organisms growth. Yeast extract is a source of vitamins, particularly of B-group. Sodium chloride maintains the osmotic balance of the medium. Phosphates act as buffer. Sodium pyruvate enhances recovery of injured organisms. Sorbitol is the fermentable carbohydrate. Tryptophan is an amino acid. Salmon®-GAL (6-Chloro-3-indolyl-β-D-galactopyranoside) is the substrate of β-D-galactosidase, an enzyme typically found in coliform bacteria. X-Glucuronide (5-bromo-4-chloro-3-indoxyl-β-D-glucuronide) is the other chromogenic substrate cleaved by the β-D-glucuronidase enzyme characteristic of *E. coli*. The combination of these two substrates allows to differentiate *E. coli* from other coliforms and gram-negative bacteria on the basis of the color of the colonies. IPTG (isopropyl-β-D-thiogalactopyranoside) is an inducer for the expression of β-D-galactosidase. Agar is the solidifying agent.

Supplementation with Tergitol 1.5% Supplement (ref. 80042) serves to inhibit Gram-positive bacteria.

PREPARATION

Suspend 31.3 g of powder in 1 liter of deionized or distilled water. Add 10 ml of Tergitol 1.5% Supplement (ref. 80042). Bring to boil and shake until completely dissolved. DO NOT AUTOCLAVE. Cool up to 45-50°C. Aseptically, pour in Petri dishes.

TECHNIQUE

ISO 9308-1 recommends to filter the water sample through a filter membrane (0.45 μm pore diameter), transfer the membrane onto a Chromatic™ Coliform Agar ISO plate and incubate aerobically at 36 ± 2°C for 18-24 hours.

Alternatively, samples can be inoculated by spread plating, pour plating or by direct streaking on the medium surface.

INTERPRETATION OF RESULTS

Most *E. coli* giving β-D-galactosidase and β-glucuronidase positive reaction produce dark-blue to violet colonies.

Other coliform bacteria cultivate with pink to red colonies. Carry out an oxidase test (ref. 88029) to confirm oxidase-negative coliforms.

Other bacteria (if not inhibited) are colorless.

STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared plates at 2-8°C away from light.

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is designed for professional use only and must be used by properly trained operators.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

REFERENCES

- ISO 9308-1:2014. Water quality – Enumeration of *Escherichia coli* and coliform bacteria – Part 1: Membrane filtration method for waters with low bacterial background flora.
- Quantitative determination of *Escherichia coli* in water using CHROMagar *E.coli*. Jose L.Alonso et al. Journal of Microbiological Methods, 25, 1996, p.309-315.



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PRODUCT SPECIFICATIONS

NAME

Chromatic™ Coliform Agar ISO

PRESENTATION

Dehydrated medium

STORAGE

10-30°C

PACKAGING

Ref.	Content	Packaging
610630	500 g	500 g of powder in plastic bottle
620630	100 g	100 g of powder in plastic bottle

pH OF THE MEDIUM

6.8 ± 0.2

USE

Chromatic™ Coliform Agar ISO is a selective and differential chromogenic medium used with supplements for the detection and enumeration of *Escherichia coli* and coliform bacteria in water samples with low bacterial background flora, according to ISO 9308-1

TECHNIQUE

Refer to technical sheet of the product

APPEARANCE OF THE MEDIUM

Powder medium

Appearance: free-flowing, homogeneous

Colour: light beige

Ready-to-use medium

Appearance: slightly opalescent

Colour: light amber

SHELF LIFE










2 years

QUALITY CONTROL

- Control of general characteristics, label and print
- Microbiological control
Inoculum for productivity: 50-100 CFU
Inoculum for selectivity: 10⁴-10⁶ CFU
Inoculum for specificity: 10³-10⁴ CFU
Incubation Conditions: 18-24 h at 36 ± 2°C, in aerobiosis

Microorganism	WDCM	Growth	Colony color
<i>Escherichia coli</i>	WDCM 00013	Good	Dark-blue to violet
<i>Enterobacter aerogenes</i>	WDCM 00175	Good	Pink to red
<i>Enterococcus faecalis</i>	WDCM 00009	Inhibited	---
<i>Pseudomonas aeruginosa</i>	WDCM 00024	Good	Colorless

TABLE OF SYMBOLS

 Batch code	 Do not reuse	 Manufacturer	 Use by	 Fragile, handle with care
 Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult instructions for use	



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