

CHROMagar™ CCA | Ready-to-use Media

a product by Biomed MDX



Rev: 0

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REF FP60C4004

Intended Use:

CHROMagar™ CCA is a specialized medium used to detect and quantify *E. coli* and other coliform bacteria in water samples with low levels of other bacterial contamination. This method aligns with the ISO 9308-1 standard.

Principle of the Procedure:

CHROMagar™ CCA utilizes chromogenic substrates that, when broken down by specific bacterial enzymes, produce distinct colors. This allows for the simultaneous detection and differentiation of *E. coli* and other coliform bacteria. *E. coli* colonies typically appear blue to violet due to the activity of both β -galactosidase and β -glucuronidase enzymes, while coliforms other than *E. coli* appear pink to red due to β -galactosidase activity. This color differentiation simplifies identification and enumeration of these bacteria in a sample.

Product Summary:

Water contaminated with microorganisms, particularly bacteria, poses significant health risks. Fecal contamination from human and animal waste can contaminate water sources, leading to serious health issues¹. While directly testing for all pathogens is challenging, monitoring *E. coli* levels is crucial. *E. coli*, a bacterium found exclusively in the intestines of humans and animals, serves as a reliable indicator of fecal contamination. Therefore, accurate and efficient monitoring of *E. coli* levels in water resources is essential for safeguarding public health.

Formulation* (PER LITER):

Peptones and yeast extract	3.0g	Agar	14.9g
Chromogenic mix	0.5g	Sodium pyruvate	1.0g
NaCl	5.0g	Tryptophan	1.0g
Sodium dihydrogen phosphate	2.2g	Sorbitol	1.0g
Disodium hydrogen phosphate	2.7g	Tergitol® 15-S-7	0.15g

pH 6.8 +/- 0.2

*Adjust and/or supplemental as required to meet performance criteria

Procedure

Materials Provided

60mm CHROMagar™ CCA.

Materials Required But Not Provided

Ancillary culture media, reagents, and laboratory equipment as required.

Test Procedure

1. Filter the water sample using a sterile 0.45 μ m nitrocellulose (or similar) membrane filter.
2. Remove the membrane from the filtration device.
3. Place the membrane onto a CHROMagar™ CCA plate that has been allowed to warm to room temperature if refrigerated.
4. Invert the plate and incubate it aerobically at 36 ± 2 °C for 18-24 hours.
5. Observe the result according to user requirements.
6. Dispose of all used reagents and contaminated materials as infectious waste. Laboratories must handle and dispose of all waste safely according to regulations.

Results

Count for colonies exhibiting colonial morphology. Appropriate biochemical or immunological tests may be required for final identification.

Quality Control

Inoculate representative samples with the following strains. Incubate the inoculated plates at $36 \pm 2^{\circ}\text{C}$ for 18 to 24 hrs. to allow colonies to develop on the medium.

Strains	ATCC®	Growth Results	Expected CFU
<i>Escherichia coli</i>	25922	Growth; Metallic blue to violet	$\geq 70\%$
<i>Enterobacter aerogenes</i>	13048	Growth; Pink to red	$\geq 70\%$
<i>Enterococcus faecalis</i>	19433	No growth	NA
<i>Pseudomonas aeruginosa</i>	10145	No growth	NA
Uninoculated plate	-	No growth	NA

Transportation:

Temperature fluctuations may occur during transportation. However, these fluctuations do not affect the performance, quality, or safety of the media.

Storage and Shelf Life:

Upon receipt, store plates at 2 to 8°C in dark and light sensitive areas, in their original sleeve wrapping until just before use. Avoid freezing and overheating.

The plates may be inoculated up to the expiration date (see package label) and incubated for the recommended incubation times.

Warning and Precautions:

For Professional Use Only. Do Not Reuse.

Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration.

Limitations of the Procedure

This medium is for laboratory use only and is not intended for the diagnosis of disease or other conditions. Identifications are presumptive and colonies should be identified using appropriate methods

Reference

1. Ishii, S., & Sadowsky, M. J. (2008). *Escherichia coli* in the environment: implications for water quality and human health. *Microbes and environments*, 23(2), 101-108.

Packaging Symbol

Symbol	Definition
	Catalogue number
	Batch code
	Date of manufacture
	Temperature limit
	Use-by date
	Keep away from sunlight
	Do not re-use
	Fragile, handle with care
	Consult instructions for use or consult electronic instructions for use
	Do not use if packaging damaged and consult instructions for use
	Manufacturer

Further Information:

For further information please contact your Biomed MDX representative.



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