

Michrom™ Coliform Agar (Chromogenic Coliform Agar)

Intended Use

Michrom™ Coliform Agar is used for the simultaneous detection of *Escherichia coli* and total coliforms in water and food samples.

Summary

Michrom™ Coliform Agar is a selective medium recommended for the simultaneous detection of *Escherichia coli* and total coliforms in water samples. The medium contains three chromogenic substrates. The enzyme β -D-galactosidase produced by coliforms cleaves 6-chloro-3-indoxyl- β -D-galactopyranoside to form pink to red coloured colonies. The enzyme β -D-glucuronidase produced by *E. coli*, cleaves 5-bromo-4-chloro-3-indoxyl- β -D-glucuronic acid. Colonies of *E. coli* give dark blue to violet-coloured colonies due to cleavage of both the chromogens. The presence of the third chromogen IPTG enhances the colour reaction. Addition of L-Tryptophan improves the indole reaction thereby increasing the detection reliability.

Principle

Peptone, sodium pyruvate and sorbitol provide nitrogenous substances, fermentable carbohydrate and other essential growth nutrients for the organisms. Phosphates buffer the medium. The media formulation helps even sublethally injured coliforms to recover and grow rapidly. Tergitol-7 inhibits Gram-positive as well as some Gram-negative bacteria other than coliforms.

Formula*

Ingredients	g/L
Peptone	3.0
Sodium Chloride	5.0
Dihydrogen Phosphate Sodium	2.2
Disodium Hydrogen Phosphate	2.7
Sodium Pyruvate	1.0
Sorbitol	1.0
Tryptophan	1.0
Tergitol 7	0.15
6-chloro 3-indoxyl-beta-D-galactopyranoside	0.2
5-Bromo-4-chloro-3-indoxyl-beta-D-glucuronic acid	0.1
Cyclohexamine Ammonium Salt, Monohydrate	
IPTG(Isopropyl-Beta-D-thiogalactopyranoside)	0.1
Agar	10.0
Final pH (at 25°C)	6.8 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability

Store below 8°C in tightly closed container, preferably in dessicators and use freshly prepared medium. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen

Food and Dairy samples; Water samples

Specimen Collection and Handling

Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 26.45 g of the powder in 1000 mL purified / distilled water.
2. Heat (upto 95°C) with frequent stirring until completely dissolved (approx. 35 minutes).
3. DO NOT AUTOCLAVE. DO NOT OVERHEAT.
4. Immediately cool the medium in water bath at 45°C-50°C.

Quality Control

Dehydrated Appearance: Beige coloured, homogenous, free flowing powder.

Prepared Appearance: Transparent, clear gel forms in petridishes.

Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 35°C-37°C.

Organism (ATCC)	Growth	Colour of Colony
<i>Citrobacter freundii</i> (8090)	Good	Pink
<i>Escherichia coli</i> (25922)	Good	Violet
<i>Enterococcus faecalis</i> (29212)	Inhibited	-
<i>Klebsiella pneumoniae</i> (13883)	Good	Light pink
<i>Pseudomonas aeruginosa</i> Strain Boston 41501 (27853)	Good	Colourless
<i>Klebsiella aerogenes</i> (13048)	Good	Pink

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions / Limitations

1. Further biochemical testing is required for identification of microorganism.
2. Certain variations in colour may be observed.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. International Organization for Standardization. Water quality: Enumeration of *E. coli* and coliform bacteria. Part I Membrane filtration methods for bacteria with low bacterial background flora. ISO 9308-1:2014.
2. Kilian M. and Bülow P., 1976, Acta. Pathol. Microbiol. Scand Sect. B, 84:245.
3. Manafi M. and Kneifel W., 1989, Zentralbl. Hyg., 189:225
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size				
201130440100	Dehydrated Culture Media	100 g				
201130440500	Dehydrated Culture Media	500 g				
 Temperature Limit	 Manufacturer	 LOT  Batch Code	 Date of Manufacture	 This way up	 RO	Received on
 REF Catalogue Number	 Consult Instructions for use	 Use-by Date	 Hygroscopic keep container tightly closed	 OO	Opened on	

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.

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