

m-FC Biosart® 100 Nutrient Media



Introduction

Coliform bacteria serve as indicator organisms for fecal contamination. Membrane Fecal Coliform Biosart® 100 Nutrient Media is used for the detection of *E. coli* and fecal coliform bacteria according to Geldreich et al. It is suitable for cultivating microorganisms in raw materials, water (general quality), waste water, beverages, foods and other products.

The medium contains bile salts that suppress the growth of Gram-positive microorganisms, while lactose serves as a carbon source for coliform bacteria. To differentiate between fecal and non-fecal coliform strains, an incubation temperature of 44 °C can be used to inhibit the growth of non-fecal bacteria. Rosolic acid prevents the growth of most bacteria, with the exception of fecal coliforms. In the presence of aniline blue as an indicator, coliform bacteria generate blue colonies due to the acidic by-products of lactose fermentation.

Technical Specifications

Order No.	16400-02----MF-K (50 units)
Media	m-FC
Color	Purple
Storage	Refrigerate (2 - 8 °C) after arrival*, dark and dry, use before expiry date on the label
Shelf Life	12 months
For Use With	Biosart® 100 Monitor (16401) with white membrane filter and black grid, 0.45 µm

* Data have shown constant performance in microbiological tests after storage at 22 °C for 14 days.

Media Formulation**

Ingredients	g/L
Tryptose	10
Proteose Peptone No. 3	5
Yeast extract	3
Sodium chloride	3
Lactose	1
Bile Salts No. 3	12.5
Aniline Blue (Water Blue)	1.5
Rosolic acid (dissolved in 100 mL water with 0.8 g sodium hydroxide)	10 mL
Water (AP-Quality)	Ad 1,000 mL

pH 7.4 ± 0.25 (at room temperature)

** Formula adjusted, standardized to suit performance parameters.

Instructions

The Biosart® 100 Monitor is a sterile, ready-to-use disposable unit featuring an integrated membrane filter and cellulose pad. After filtration, add the Biosart® 100 Nutrient Media from the ampoule and apply vacuum for 1 second. Remove the disposable unit from the manifold and seal the outlet. Finally, detach the funnel and close the lid to transform the monitor into a petri dish.

Incubation Conditions

18 - 24 hours at 36 ± 2 °C.

Evaluation and Typical Results

E. coli and coliform bacteria form blue colonies with a blue surrounding. This color is dark blue at fecal coliforms with strong lactose fermentation and lighter blue for non-fecal coliforms with weaker lactose fermentation. Lactose-negative bacteria grow with different colors and are not evaluated.

Microbiological Quality Control

Sterility: Qualitative

Incubation conditions: 14 days at 30 - 35 °C

Specification: No growth or turbidity

Productivity: Quantitative

Inoculum: 50 - 150 CFU

Incubation conditions: 18 - 24 hours at 36 ± 2 °C

Specification: ≥ 85% membrane filtration on specific agar as reference

Microorganism	Test strain	Specification	Morphology
<i>Escherichia coli</i>	WDCM 00012	$P_r \geq 0.85$	Dark blue colonies with blue zone

P_r Productivity Ratio

Selectivity: Qualitative

Inoculum: 10⁴ CFU

Specification: No growth | total inhibition

Microorganism	Test strain	Specification
<i>Enterococcus faecalis</i>	WDCM 00087	No growth total inhibition

Specificity: Qualitative

Inoculum: 10³ CFU

TSA spread plate as control

Microorganism	Test strain	Specification Morphology
<i>Citrobacter freundii</i>	WDCM 00006	Shiny, blue colonies
<i>Klebsiella aerogenes</i> ***	WDCM 00175	Glassy rose red, on agar glassy blue colonies
<i>Salmonella enterica</i> ***	WDCM 00031	Glassy, beige to bright rose colonies

*** Tested on a regular basis.


The incubation conditions recommended by Sartorius can be adjusted based on the type of samples, in accordance with the reference standards or customer requirements. Descriptions of typical results illustrate the usual appearance of the specified microorganisms. However, in certain cases, the color and shape of the colonies may differ from the expected appearance. Additional tests may be required to confirm the results. Sartorius shall not be liable for any consequential or incidental damages incurred by customers from the use of its products.

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