

Technical Data Sheet

m-FC Agar

Ordering number: 1.11278.0500

m-FC Agar is used for the detection of fecal coliforms by the membrane filtration technique.

Mode of Action

In the past, the fecal coliforms derived from the intestinal tract of warm-blooded animals, were separated from the non-fecal coliforms by use of elevated temperature tests, which needed confirmatory MPN (Most Probable Number) procedure in addition. GELDREICH et al. published the development of a Fecal Coliform (FC) Medium for the membrane filtration technique using an incubation temperature of $44.5 \text{ }^{\circ}\text{C} \pm 0.2 \text{ }^{\circ}\text{C}$.

m-FC Agar is supplemented with rosolic acid and incubated at $44.5 \text{ }^{\circ}\text{C} \pm 0.2 \text{ }^{\circ}\text{C}$ for 24 h.

Peptone and yeast extract which serve as nutritious source and bile salts are added to inhibit accompanying Gram-positive flora.

Lactose can be fermented by fecal coliforms at the elevated temperature to form blue colonies on the prepared medium (agar base plus rosolic acid), whereas other organisms show grey colonies.

Typical Composition (g/L)

m-FC Agar	
Proteose peptone	5.0
Tryptose	10.0
Yeast extract	3.0
Sodium chloride	5.0
Bile salts	1.5
Lactose	12.5
Methyl blue (formerly aniline blue)	0.1
Agar-agar**	15.0

**Agar-agar is equivalent to other different terms of agar.

Preparation

Suspend 52 g in 1 litre of distilled or deionized water and heat to boiling to dissolve completely. Add 10 ml of a 1 % solution of rosolic acid in 0.2 N NaOH. Continue heating for 1 minute with frequent agitation. Do not autoclave! Cool to 45-50 °C. Dispense 4 ml amounts into Petri dishes (Ø 50-60 mm) and allow to solidify. Cool to 50 °C and pour plates.

pH: 7.4 ± 0.2 at 25 °C.

The plates are clear and blue to violet.

Experimental Procedure and Evaluation

Place membrane filter, through which the sample has been filtered, on the surface of the agar. Avoid formation of air bubbles between the filter and the agar surface.

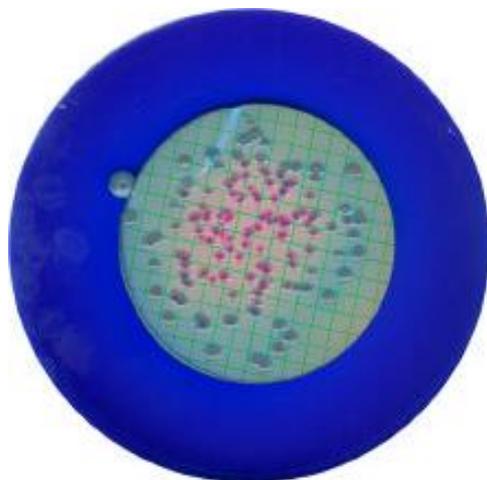
Incubation: 24 hours at 44.5 °C ± 0.2 °C aerobically.

Blue coloured colonies on the membrane filter are counted as fecal coliforms. Other organisms form grey to cream-coloured colonies.

Quality Control

Control strains	Growth	Colony colour
Escherichia coli ATCC 25922 (WDCM 00013)	Good	blue to dark blue
Salmonella typhimurium ATCC 14028 (WDCM 00031)	Good	pink to red
Enterococcus faecalis ATCC 19433 (WDCM 00009)	No growth	
Enterobacter aerogenes ATCC 13048	Good	grey to grey-blue

Please refer to the actual batch related Certificate of Analysis.



Enterobacter cloacae ATCC 13047



Escherichia coli ATCC 25922



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Literature

GELDREICH, CLARK, HUFF, a. BERG: - **J. Am. Water Works Assoc.**, **57** ; 208 (1965).

Ordering Information

Product	Cat. No.	Pack size
m-FC Agar	1.11278.0500	500 g
0.2 N Sodium hydroxide solution	1.09140.1000	1 l
<i>p</i> -Rosolic acid	SIGMA 861324-25g	25 g

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