M-FC Agar Base

Intended Use
M-FC Agar Base is used for the detection and enumeration of faecal coliforms using membrane filter technique at higher temperature.

Summary
M-FC Agar Base, designed by Geldreich *et al.,* is used for the detection and enumeration of faecal coliforms using the membrane filter technique. This medium is based on the property of faecal coliforms to grow at 44°C-45°C. M-FC Agar Base is recommended by APHA and by various other standards for detection of faecal coliforms. APHA recommends the membrane filtration procedure and delayed incubation for faecal coliforms.

Principle
Proteose peptone, tryptose and yeast extract provide necessary nutrients for the growth of faecal coliforms. Lactose is the carbon source as well as fermentable carbohydrate in the medium. Bile salts inhibit the growth of contaminating Gram-positive microorganisms. Aniline blue is a triphenyl methane dye which suppresses the growth of many Gram-positive microorganisms. Aniline blue along with rosolic acid forms the indicator system of the medium. Membrane filters, through which water sample is passed, are aseptically placed onto M-FC Agar base plates. If total coliforms are to be estimated, incubation is carried out at 35°C-37°C whereas if faecal coliform count is to be estimated, incubation is done at 44°C-45°C. Coliforms will form blue colonies whereas non-coliforms will form gray coloured colonies on M-FC Agar Base.

Formula*

Ingredients	**g/L**
Tryptose	10.0
Proteose Peptone	5.0
Yeast Extract	3.0
Lactose	12.5
Bile Salt Mixture	1.5
Sodium Chloride	5.0
Aniline Blue	0.1
Agar	15.0
Final pH (at 25°C)	7.4 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
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 52.10 g of the powder in 1000 mL of purified / distilled water containing 10 mL 1% Rosolic Acid.
2. Mix thoroughly.
3. Heat to boiling to dissolve the powder completely. DO NOT AUTOCLAVE.
4. Cool to 45°C and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Yellow coloured, homogenous, free flowing powder.
Prepared Appearance: With addition of Rosolic acid: red coloured, slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed with added 1% Rosolic Acid after an incubation at different temperatures for 22-24 hours.

Organism (ATCC)	Growth	Colour of Colony
Incubated at 30-35°C		
Escherichia coli (25922)	Good	Light blue
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	Pinkish
Shigella flexneri serotype 2b (12022)	Good	Pinkish
Enterococcus faecalis (29212)	Inhibited	-
Incubated at 45.5°C		
Escherichia coli (25922)	Good	Light blue
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Partial Inhibition	-
Shigella flexneri serotype 2b (12022)	Partial Inhibition	-
Enterococcus faecalis (29212)	Partial Inhibition	-

Performance and Evaluation

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

1. Directions
2. Storage
3. Expiry

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. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.) Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
2. Geldreich E. E., Clark H. F., Huff E. E. and Bert M., 1965, J. Am. Water Works Assoc., 57:208.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130400100	Dehydrated Culture Media	100 g
201130400500	Dehydrated Culture Media	500 g