

TM 2186 - M-FC BASAL MEDIUM

INTENDED USE

For enumeration of faecal coliform by membrane filtration technique with the addition of fluorogenic and chromogenic supplement.

PRODUCT SUMMARY AND EXPLANATION

Coliform bacteria are the members of the *Enterobacteriaceae* and are present in large numbers in faeces and sewage. The presence of coliform bacteria, which grow at 44°C, confirms serious water contamination. Membrane filter technique is the most common technique used in the detection of faecal coliforms as recommended by APHA. This medium is formulated in accordance with Ciebin et.al. The chromogenic substrate, 5-bromo-4-chloro-3-indolyl-Beta-D-glucuronide in the medium is cleaved by the presence of enzyme β -glucuronidase in *E. coli* thereby producing blue coloured colonies. MUG Supplement in the medium is cleaved by the enzyme β -glucuronidase of *E. coli* to release 4- methylumbelliferone which produces visible blue-green fluorescence under long UV light. This medium can be used by addition of either of the two supplements or in combination for the confirmation of *E. coli*.

COMPOSITION

Ingredients	Gms / Ltr
Tryptose	10.000
Proteose peptone	5.000
Bile Salts Mixture	1.500
Yeast extract	3.000
Sodium chloride	5.000
Agar	15.000

PRINCIPLE

Tryptose, proteose peptone and yeast extract provides carbon, nitrogen compounds, Vitamin Bcomplex and other essential growth nutrients. Bile salts inhibit gram positive organisms. Sodium chloride maintains osmotic balance.

INSTRUCTION FOR USE

- Dissolve 39.5 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely. Do not autoclave.
- Cool to 45-50°C.
- Add rehydrated contents of 1 vial of MUG supplement or Chromogenic supplement.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder
Appearance of prepared medium pH (at 25°C)	: Light yellow coloured clear to slightly opalescent gel forms in Petri plates : 7.4±0.2

INTERPRETATION

Cultural characteristics observed with added MUG supplement and Chromogenic supplement both in combination, after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Fluorescence under uv light	Incubation Temperature	Incubation Period
<i>Enterobacter aerogenes</i>	13048	$\geq 10^4$	inhibited	0%	-	-	44-45°C	24 Hours
<i>Escherichia coli</i>	25922	50-100	good-luxuriant	$\geq 50\%$	blue	positive	44-45°C	24 Hours
<i>Enterococcus faecalis</i>	29212	$\geq 10^4$	inhibited	0%	-	-	44-45°C	24 Hours
<i>Staphylococcus subsp. aureus</i>	25923	$\geq 10^4$	inhibited	0%	-	-	44-45°C	24 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
2. Ciebin, Brodsky, Eddington, Horsnell, Choney, Palmateer, Ley, Joshi and Shears. 1995. Appl. Enviro Microbiol.
3. Collee J.G., Fraser A.G., Marmion B.P., Simmons A., (Eds) Mackie and McCartney, Practical Medical Microbiology 1996, 14th Edition, Churchill Livingstone.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.



GMP Good Manufacturing Practices Certified	IVD For In Vitro Diagnostic Use	QTY. Quantity	LOT/ B. NO. Lot / Batch Number	REF Catalogue Number	 Manufacturer
 Temperature Unit	EC REP MedNet GmbH Buckstrasse 10, 49163 Moersdorf, Germany Authorized Representative	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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