

Product Data Sheet

MUG MFC AGAR

Product No. GB-DCM-00379-1A

INTENDED USE

For cultivation and enumeration of faecal coliforms by the membrane filter technique.

PRODUCT SUMMARY

Faecal coliforms are organisms present in the gastrointestinal tract of warm blooded animals. Presence of faecal coliforms in water is an indication of faecal contamination. MFC Agar, formulated by Geldrich et al is recommended for the detection of faecal coliforms in water samples by the membrane filter technique. Escherichia coli is a member of the faecal coliform group, which possess the enzyme β -glucuronidase. This enzyme specifically cleaves 4-Methylumbelliferyl- β -D-Glucuronide (MUG) to form a fluorescent end product 4-Methylumbelliferone. This end product fluoresces under long wave UV light (366 nm). MUG MFC Agar is MFC Agar with added MUG and is recommended for cultivating and enumerating faecal coliforms by the membrane filtration technique.

Product Specifications

Ingredients	Gms / Ltr
Tryptose	10.000
Proteose peptone	5.000
Yeast extract	3.000
Bile salts	1.500
Sodium chloride	5.000
4-Methylumbelliferyl β -D-Glucuronide (MUG)	0.100
Agar	15.000

PRINCIPLE

Tryptose and proteose peptone provide carbon, nitrogen, vitamins and minerals necessary for the growth of faecal coliforms. Yeast extract provides B-complex vitamins, which stimulate bacterial growth. Bile salts inhibit the growth of gram-positive microorganisms. Incorporation of MUG in the medium permits rapid detection of E. coli, when the medium is observed for fluorescence under long-wave UV light.



INSTRUCTION FOR USE

- Dissolve 39.6 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely. Do not autoclave.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light pink, homogeneous free flowing powder

Appearance of prepared medium: Red coloured, clear to slightly opalescent gel forms of basal medium. With addition of Egg Yolk Emulsion light orange coloured opaque gel forms in petri plates.

pH (at 25°C) : 7.4± 0.2

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.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Fluorescence (under UV)	Incubation Temperature	Incubation Period
Shigella flexneri	12022	50-100	Luxuriant	≥70%	Positive	35-37°C	18-24 Hours
Enterococcus faecalis	29212	≥10 ³	Inhibited	0%	-	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Luxuriant	≥70%	Negative	35-37°C	18-24 Hours
Shigella flexneri	12022	50-100	Luxuriant	≥70%	Negative	35-37°C	18-24 Hours

This product is for research use only.

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