

Product Data Sheet

MUG NUTRIENT AGAR

Product No. GB-DCM-00378-1A

INTENDED USE

For detection of indole production by microorganisms using fluorogenic method.

PRODUCT SUMMARY

Escherichia coli is the member of faecal coliform group, presence of which in water indicates faecal contamination. These bacteria possess the enzyme b-glucuronidase and are capable of cleaving the fluorogenic substrate 4-Methylumbelliferyl beta- D-Glucuronide (MUG) with the release of the corresponding fluorogen, 4-Methylumbelliferone. Therefore, incorporation of MUG and subsequent fluorescence is confirmatory for presence of E. coli with no further confirmation required. MUG Nutrient Agar is recommended for detection of E. coli in water and food samples by a fluorogenic method. Presumptive E. coli in the samples can be directly inoculated into the medium.

Product Specifications

| Ingredients | Gms / Ltr |
|---|------------------|
| Peptic digest of animal tissue | 5.000 |
| Sodium chloride | 5.000 |
| Beef extract | 1.500 |
| Yeast extract | 1.500 |
| 4-Methylumbelliferyl β -D-Glucuronide (MUG) | 0.100 |
| Agar | 15.000 |

PRINCIPLE

Peptic digest of animal tissue, beef extract and yeast extract provide nitrogenous compounds and vitamin B complex. MUG is cleaved by the enzyme beta-glucuronidase of E. coli to release 4-methylumbelliferone which produces visible green-blue fluorescence under long wave UV light. Some strains of Salmonella and Shigella species also produce glucuronidase. Refer appropriate references for standard procedures.



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INSTRUCTION FOR USE

- Dissolve 28.1 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- 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: Light amber coloured clear to slightly opalescent gel forms in Petri plates.

pH (at 25°C) : 7.4± 2

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Fluorescence (under UV light at 366 nm) | Incubation Temperature | Incubation Period |
|------------------------|-------|-------------------|----------------|----------|---|------------------------|-------------------|
| Escherichia coli | 25922 | 50-100 | Good-Luxuriant | >=50% | Positive | 35-37°C | 18-24 Hours |
| Pseudomonas aeruginosa | 27853 | 50-100 | Good-Luxuriant | >=50% | Negative | 35-37°C | 18-24 Hours |
| Staphylococcus aureus | 25923 | 50-100 | Good-Luxuriant | >=50% | Negative | 35-37°C | 18-24 Hours |
| Streptococcus pyogenes | 19615 | 50-100 | Good-Luxuriant | >=50% | Negative | 35-37°C | 18-24 Hours |

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.

This product is for research use only.

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