

TECHNICAL DATA SHEET

MUG Lauryl Sulphate Broth

Principle

MUG Lauryl sulphate broth is composed of tryptose, lactose, potassium phosphate dibasic and monobasic, sodium chloride and sodium lauryl sulfate. Tryptose provides nitrogen and amino acids. Lactose is fermentable carbohydrate. Potassium phosphates are buffering agents. Sodium chloride maintain osmotic balance. Sodium lauryl sulfate inhibits non-coliforms. The selectivity to the medium is provided by lactose and sodium lauryl sulfate. 4-methylumbelliferyl- β -D-glucuronide (MUG) is hydrolyzed by an enzyme β glucuronidase possessed by organisms to yield 4-methylumbelliferone, a fluorescent end product.

Use: For detection of Escherichia coli in water and food by a fluorogenic method.

Contents*

| Ingredients | Gram/Litre |
|---|---------------|
| Tryptose | 20.000 |
| Lactose | 5.000 |
| Potassium Phosphate Dibasic | 2.750 |
| Potassium Phosphate Monobasic | 2.750 |
| Sodium Chloride | 5.000 |
| Sodium Lauryl Sulfate | 0.100 |
| 4-Methylumbelliferyl β -D-glucuronide (MUG) | 0.050 |
| pH at 25°C | 6.8 \pm 0.2 |

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 35.65 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute in test tube containing inverted Durham's tube. Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45 °C and inoculate test sample aseptically.

Specimens types analyzed

Food, dairy and water samples, clinical and non-clinical samples etc.

Precautions to be taken

All the handling, experiments, storage, and discarding should be performed with the help of

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skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date

Quality Control

| | |
|-----------------------------------|--|
| Appearance | Light beige colored free flowing, homogeneous powder |
| Reaction of 3.56% solution | 6.8 ±0.2 at 25 °C |
| pH | 6.60- 7.00 |
| Color and clarity of ready medium | Light amber colored clear opalescent solution |
| Growth Promotion properties | Best at ≤ 100 CFU at 32-37 °C for 18-72 h |
| Indicative properties | Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h |
| Negative control | Performed using sterile distilled water |

Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-24 hours. Inoculum 50-100 CFU. Indole production observed after adding few drops of Kovacs reagent (RDMR-01).

| Organism | ATCC | Growth | Fluorescence under UV light at 360 nm | Indole Production |
|-----------------------------|-------|-----------|---------------------------------------|-------------------|
| <i>Escherichia coli</i> | 8739 | Luxuriant | Positive | Positive |
| <i>Escherichia coli</i> | 25922 | Luxuriant | Positive | Positive |
| <i>Klebsiella aerogenes</i> | 13048 | Luxuriant | Negative | Negative |

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

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Reference

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