TM 1028 - MUG LAURYL SULPHATE BROTH

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

Lauryl Sulphate Broth was formulated by Mallmann and Darby and is recommended by APHA for the detection and enumeration of coliform organisms in foods, water and wastewater. MUG is added in Lauryl Sulphate Broth as the fluorogenic compound which permits the rapid detection of *Escherichia coli* when observed under UV light where further confirmation is not required. MUG detects anaerogenic strains which may not be detected in the conventional procedure. Feng and Hartman used MUG-containing medium for studying ß-glucuronidase activity and found *Escherichia coli* has 96-100% activity, *Salmonella* species with 17% and *Shigella* species 40% activity and other genera were negative. For weakly positive strains incubation should be carried out overnight. Robison reported no false negative results and about 5% false positive results.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	20.000
Lactose	5.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.750
Potassium dihydrogen phosphate	2.750
Sodium lauryl sulphate	0.100
4-Methylumbelliferyl ß-D-glucuronide (MUG)	0.050

PRINCIPLE

Tryptone provides nutrients while lactose act as energy source. Sodium lauryl sulphate inhibits many organisms other than coliforms. 4-methylumbelliferyl-ß-D-glucuronide is hydrolyzed by an enzyme ß-glucuronidase possessed by organisms to yield 4-methylumbelliferone, a fluorescent end product.

INSTRUCTION FOR USE

- Dissolve 35.65 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes with inverted Durhams tubes as required, taking into account the volume of sample to be tested.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light amber coloured clear solution without any precipitate.
pH (at 25°C) : 6.8±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Fluorescence under UV at 366nm	Indole production	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Positive	Positive Reaction, red ring at the interface of the medium	35-37°C	4-24 Hours
Klebsiella aerogenes	13048	50-100	Luxuriant	Negative	Negative Reaction	35-37°C	4-24 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 2-8°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
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2. Feng P.C.S. and Hartman P. A., 1982, Appl. Environ. Microbiol., 43:1320.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
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5. Mallmann and Darby, 1941, Am.J. Public Health, 31:127.
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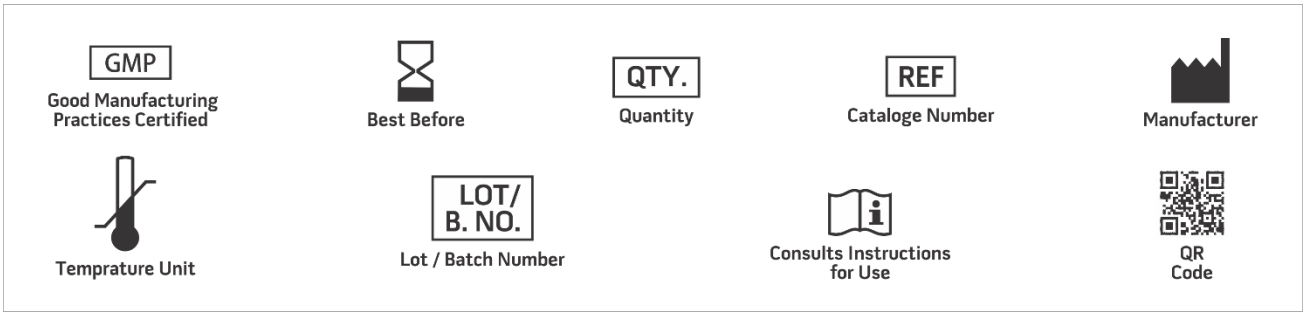
7. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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