

CM 21,251 - MUG EC BROTH, MODIFIED

INTENDED USE

Recommended for detection and enumeration of *Escherichia coli* on surface and waste water by miniaturized method (MPN).

PRODUCT SUMMARY AND EXPLANATION

EC Broth was devised by Hajna and Perry for the detection of *Escherichia coli* and coliforms. This was further modified by the addition of the fluorogenic compound MUG for rapid detection of *E. coli*. MUG permits rapid detection of *E. coli* when medium is observed under UV light for fluorescence. MUG also detects anaerogenic strains which may not be detected in conventional procedure. MUG is hydrolyzed by an enzyme β -glucuronidase possessed by *Escherichia coli* to yield a fluorescent end product 4-Methylumbelliferone.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	40.000
Salicin	1.000
Triton X-100	1.000
MUG	0.100

PRINCIPLE

Tryptone provides essential nutrients. Salicin acts as energy sources and Triton X-100 acts as a surfactant. Following incubation, observe tubes for growth and fluorescence under long-wave (366nm) UV light. Positive reaction exhibits bluish fluorescence. Some strains of *Salmonella* and *Shigella* may also produce glucuronidase therefore these must be distinguished from *E. coli* on the basis of other parameters i.e. growth at 44°C and other biochemical tests.

INSTRUCTION FOR USE

- Dissolve 42.1 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks as desired.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 12-15 minutes.

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder : Cream to yellow homogeneous free flowing powder.
- Appearance of prepared medium : Light amber coloured clear solution.
- pH (at 25°C) : 6.9±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Fluorescence under 366 nm	Incubation Temperature	Incubation Period
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Klebsiella aerogenes	13048	>=103	Inhibited	Negative	44°C	36 Hours
Escherichia coli	25922	50-100	Luxuriant	Positive, blue	44°C	36 Hours
Shigella flexneri	12022	>=103	Inhibited	Negative	44°C	36 Hours
Salmonella Typhi	6539	>=103	Inhibited	Negative	44°C	36 Hours

PACKAGING:

Inpacksize 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

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. Feng P. C. S and Hartman P. A. S., 1982, Appl. Environ Microbiol., 43:132.
3. Hajna A. A. and Perry C. A., 1943, Am. J. Public Health 33: 550.
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.
6. Robinson J., 1984, Appl. Environ. Microbiol, 48: 285.

 Good Manufacturing Practices Certified	 For In Vitro Diagnostic Use	 Quantity	 Lot / Batch Number	 Catalogue Number	 Manufacturer
 Temperature Unit	 Authorized Representative MedWor GmbH Buckhorn 16 48161 Münster, Germany	 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 LabUse Only

