TM 1026 - MUG BRILLIANT GREEN BILE BROTH

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

Brilliant Green Bile Broth is one of the most widely used medium for the detection of coliform bacteria in water, wastewater, foods, and milk and dairy products. This medium is formulated as per APHA for the presumptive identification and confirmation of coliform bacteria.

The fluorogenic compound, MUG (4- Methylumbelliferyl-β-D-glucuronide) in the medium permits the rapid detection of *E. coli* which produces a blue fluorescence when hydrolyzed by the enzyme β-glucuronidase and is observed using a long-wave UV light source. During examination of water samples, growth from presumptive positive tubes showing gas in Lactose Broth or Lauryl Tryptose Broth is inoculated in Brilliant Green Bile Broth 2%. Gas formation within 48 ± 2 hours confirms the presumptive test.

COMPOSITION

Ingredients	Gms / Ltr
Gelatin peptone	10.000
Lactose	10.000
Bile Oxgall	20.000
Brilliant green	0.0133
4-Methylumbelliferyl ß-D-Glucuronide (MUG)	0.050

PRINCIPLE

Gelatin peptone serves as a source of essential nutrients. Lactose is the fermentable carbohydrate. Bile inhibits gram-positive bacteria whereas the gram-negative bacteria are inhibited by brilliant green. Production of gas from lactose fermentation is detected by incorporating inverted Durham's tube, which indicates the positive evidence of faecal coliform since non faecal coliforms growing in this medium do not produce gas. Gram-positive spore formers may produce gas if the bile or brilliant green inhibition is weakened by reaction with food material.

INSTRUCTION FOR USE

- Dissolve 40.1 grams in 1000 ml purified/distilled water.
- Heat if necessary to ensure completely solution.
- Dispense 10 ml amounts in test tubes containing inverted Durham's tubes. Sterilize by autoclaving at 15 psi pressure121°C) for 15 minutes.
- For testing larger quantities of sample prepare concentrated medium to accommodate volume of the test sample.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light green homogeneous free flowing powder.
Appearance of prepared medium : Emerald green coloured clear solution.
pH (at 25°C) : 7.2±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

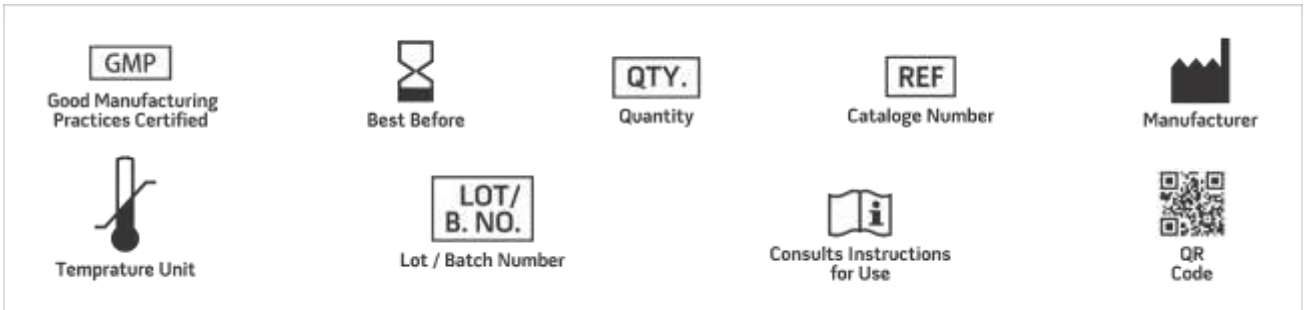
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Gas	Fluorescence (at 366 nm)	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Positive	Positive (by adding 0.2N NaOH)	35-37°C	18-24 Hours
Klebsiella aerogenes	13048	50-100	Luxuriant	Positive	Negative	35-37°C	18-24 Hours
Enterococcus faecalis	29212	50-100	None-poor	Negative	Negative	35-37°C	18-24 Hours
Staphylococcus subsp. *aureus*	25923	>=10^4	Inhibited	>=50 %	-	35-37°C	18-24 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
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. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. 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.
4. McCrady and Langerin, 1932, J. Dairy Science, 15:321.
5. McCrady, 1937, Am. J. Publ. Health, 27:1243.
6. 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.
7. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed.,APHA Inc., Washington, D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 08 Nov., 2019