PRODUCT INFORMATION

Product Type: Tubes (10ml)

Cat No. TT257/BL - BRILLIANT GREEN BILE BROTH 2%

Intended Use:

Brilliant Green Lactose Bile Broth (BGLB or Brilliant Green Bile Lactose Broth, BRILA-Broth) is a selective enrichment medium primarily used for the detection and confirmation of coliform bacteria—including Escherichia coli and other fecal coliforms — in water, milk, dairy, food, and environmental samples. It is widely cited in international standards (ISO 4831/4832, FDA-BAM, APHA) for water and food microbiology.

Principles and uses:

Selectivity:

Ox-bile and brilliant green act synergistically to inhibit most Gram-positive bacteria and many non-coliform Gram-negatives. Only coliforms (especially fecal coliforms like E. coli) are able to rapidly ferment lactose and thrive in the presence of these inhibitors.

Coliform Detection:

Coliforms ferment lactose, producing gas that is detected in inverted Durham tubes. Gas formation within 24–48 hours indicate a presumptive positive for coliform presence.

Presumptive Test: Following initial enrichment in a less selective medium (e.g., Lauryl Sulphate Broth), samples showing gas are sub-cultured to BGLB for confirmation.

Incubation: Typically, at 35–37°C for total coliforms; for fecal coliforms (E. coli), incubation at 44°C is recommended.

Interpretation: Turbidity and gas in the Durham tube = positive for coliforms. No gas = negative

Test Procedure

Refer to appropriate references for specific instructions for the material being tested.

1. Subculture from a presumptive positive coliform specimen in Lauryl Sulfate Broth or from typical coliform colonies on Violet Red Bile Agar to tubes of Brilliant Green Lactose Bile Broth.
2. Incubate at 35°C for 48 ± 2 hours.
3. Examine for bubbles (gas) in the fermentation tub

Results

Positive: Bubbles (gas) in fermentation tube.

Negative: No bubbles (gas) in fermentation tube.

Limitation of the Procedure

Due to varying nutritional requirements, some strains may be encountered that grow poorly or fail to grow on this medium

References

1. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalytical manual BAM/default.htm.
2. Cunnif, P. (ed.). 1995. Official Methods of Analysis AOAC International, 20th ed. AOAC International, Gaithersburg, MD.
3. Vanderzant, C., and D. F. Splittstoesser (eds.). Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
4. Marshall, R. T. (ed.). 2004. Standard methods for the examination of dairy products, 17th ed., American Public Health Association, Washington, D.C.
5. Eaton, A. D., L. S. Clesceri, and A. E. Greenberg (eds.). 2017. Standard methods for the examination of water and wastewater, 23rd ed. American Public Health Association, Washington, D.C.

Composition:

Peptone 10.0 g/L
Lactose 10.0 g/L
Ox Bile 20.0 g/L
Brilliant Green 0.0133 g/L

Storage: 2°-8°C
Package contents: 20 Tubes
Appearance: clear green
pH Range: 7.0 - 7.4
Exp. Date: Printed on label and on the item.
Required materials not supplied: Laboratory equipment as required.

Warning and Precautions:

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Tubes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Tubes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

Waste Disposal

After interpretation all items should be destroyed by standard incineration methods.

Performance Testing Results:

INOCULUM: 1000-10000 CFU

Test	ATCC NO	Incubation Temp. (℃)	Incubation Cond.	Reaction 1	
Volume 10 ml					
Escherichia coli	25922	33-37 ℃	Aerobic, 24-48 hours	Growth	Gas production
Enterobacter aerogenes	13048	33-37 ℃	Aerobic, 24-48 hours	Growth	Gas production
Pseudomonas aeruginosa	27853	33-37 ℃	Aerobic, 24-48 hours	Scanty growth	w/o gas production
Enterococcus faecalis	19433	33-37 ℃	Aerobic, 24-48 hours	Inhibited	
Staphylococcus aureus	25923	33-37 ℃	Aerobic, 24-48 hours	Inhibited	

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