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Brilliant Green Bile Broth 2%

This medium is widely recommended for identifying and confirming the presence of coliform bacteria in water, wastewater, food, milk, and dairy products.

REF: BS.1/NZ01.100.0100	100 Gram	REF: BS.1/NZ01.250.0250	250 Gram
REF: BS.1/NZ01.500.0500	500 Gram		

PRINCIPLE AND INTERPERTATION :

Brilliant Green Bile Broth 2% 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 (1,2,3) for the presumptive identification and confirmation of coliform bacteria (4,5). This medium is also recommended by the ISO Committee for enumeration of coliforms by most probable number technique (6). 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. Further gas production in EC broth (M127) at 45°C used as a confirmation of faecal coliform. Gram-positive spore formers may produce gas if the bile or brilliant green inhibition is weakened by reaction with food material. During examination of water samples, growth from presumptive positive tubes showing gas in Lactose Broth (M026) or Lauryl Tryptose Broth (M080) is inoculated in Brilliant Green Bile Broth 2% (M121). Gas formation within 48 ± 2 hours confirms the presumptive test (1)

MEDIA COMPOSITION

Item	Formula per liter of medium
Peptone	10.00 gm
Lactose	10.00 gm
Bile	20.00 gm
Brilliant green	0.0133 gm

Final pH (at 25°C) 7.2± 0.2 ** Formula adjusted, standardized to suit performance parameters.

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  S56: dispose of this material and its container at hazardous or special waste collection point.
  S57: use appropriate container to avoid environmental contamination.
  S61: avoid release in environment.

For further information, refer to the Brilliant Green Bile Broth material safety data sheet.

STORAGE AND STABILITY

BioScien Brilliant Green Bile Broth 2% Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

PREPARATION

Suspend 40.01 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Distribute in fermentation tubes containing inverted Durhams tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. For preparation of double strength it is recommended to heat the dissolved broth (80.02 grams per litre) at 100°C for 30 minutes. Do not autoclave double strength broth.

Deterioration

The color of ***BioScien*** Brilliant Green Bile Broth 2% is Cream to pale green coloured homogeneous free flowing powder. Prepared Medium,Emerald green coloured, clear solution without any precipitate. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile petri dishes
- Incubator
- Autoclave

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed after an incubation at 35-37°C for 18 - 48 hours.

Organisms (ATCC)	Growth	Gas
Bacillus cereus ATCC 10876	inhibited	
Escherichia coli ATCC 25922(00013)*	good-luxuriant	positive reaction

(#)*Klebsiella aerogenes ATCC 13048 (00175*)*	good-luxuriant	positive reaction
Enterococcus faecalis ATCC 29212	none-poor	negative reaction
Staphylococcus aureus subsp. aureus ATCC 25923 (00013)*	inhibited	

Key : (*) Corresponding WDCM numbers (#) Formerly known as *Enterobacter aerogenes*

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control still out of range please contact ***BioScien*** technical support.

REFERENCE

1. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
2. Richardson G., (Ed.), 1985, Standard Methods for the Examination of Dairy Products, 15th Ed, APHA, Washington, D.C.
3. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
4. McCrady and Langerin, 1932, J. Dairy Science, 15:321.

SYMBOLS IN PRODUCT LABELLING

IVD	For in-vitro diagnostic use	Σ	Number of <n> test in the pack
LOT	Batch Code/Lot number		Caution
REF	Catalogue Number		Do not use if package is damaged
	Temperature Limitation		Consult Instruction for use
	Expiration Date		
	Manufactured by		