

Also known as

BGBLB; BLBVB;

Specification

Liquid medium used for the detection of coliforms in water, as recommended by APHA and ISO standards.

Formula * in g/L

Bile	20.000
Lactose	10.000
Peptone	10.000
Brilliant green	0.013

Final pH 7.2 ±0.2 at 25 °C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Dissolve 40 g of powder in 1 L of distilled water and bring to the boil. Distribute into containers containing Durham tubes and sterilize in the autoclave at 115°C for 15 minutes.

Description

Brilliant Green Bile 2% Broth has been widely used as a medium for the assay of presumptive coliforms in food, milk and water, using the Most Probable Number Technique. This broth offers some advantages over other similar broths as its balanced composition of Bile and Brilliant Green effectively suppresses the growth of Gram positive bacteria.

 It is recommended by the APHA for colimetry of water, milk and food. British and Australian methodology use the broth as an intermediate stage between presumptive and confirmative colimetry (30°C ±1,0). Other authors suggest it as an optimal base for the Eijkman testing of gas production at 44°C±1, for the identification of *E. coli*.

 This medium can be used as presumptive broth for *E. coli* (by fluorescent reaction) if prior to sterilization MUG (4-Methylumbelliferyl-β-D- Glucuronide) is added.

Quality control
Incubation temperature: 30 °C ± 1.0

Incubation time: 24-48 h ± 2

Inoculum: ≤100 CFU min. 50 CFU (productivity)/ 10⁴-10⁶ CFU (selectivity), according to ISO 11133:2014/Amd 1:2018 & Adm 2:2020

Microorganism
Growth
Remarks

<i>Salmonella typhimurium</i> ATCC® 14028	Good to very good	Gas (-). Durham tube
<i>Escherichia coli</i> ATCC® 8739	Good to very good	Gas (+). Durham tube
<i>Escherichia coli</i> ATCC® 25922	Good to very good	Gas (+). Durham tube
<i>Citrobacter freundii</i> ATCC® 43864	Good to very good	Gas (+). Durham tube
<i>Enterococcus faecalis</i> ATCC® 29212	Partial inhibition	Selectivity

References

- APHA (1971) Standard Methods for the Examination of Water and Wastewater. 13th ed. Washington.
- DOWNES, F.P. & K. ITO (2001) Compendium of Methods for the Microbiological Examination of Foods. 4rd ed. APHA. Washington.
- FDA (Food and Drug Administrations) (1998) Bacteriological Analytical Manual. 8th ed. Rev. A. AOAC Intl. Gaithersburg. MD. USA.
- ISO 4831 Standard (2006) Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of coliforms - MPN Technique.
- ISO 9308-1 Standard (1990) Water quality. Detection and enumeration of coliforms, thermotolerant coliforms and E.coli. MPN Method.
- ISO 11133:2014/ Adm 1:2018/ Adm 2:2020/ Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- PASCUAL ANDERSON, M^{AR} (1992) Microbiología Alimentaria. Díaz de Santos. S.A. Madrid.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).