

Technical Information

Azide Dextrose Broth w/ BCP

Product Code: DM 2271

Application: - Azide Dextrose Broth w/ BCP is recommended for detection of faecal Streptococci in water.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Meat extract	4.500
Glucose	7.500
Sodium chloride	7.500
Sodium azide	0.200
Bromo cresol purple	0.015
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Comparing to Escherichia coli Enterococci are more resistant to chlorine in water, and actor better indicators of water pollution by sewage Till 1984, members of the genus Enterococcus were classified as Group D Streptococci. Later upon genomic DNA analysis, a separate genus status was provided to them. ⁽⁶⁾. Azide Dextrose Broth was initially formulated by Rothe, Mullmann and Seligmann ^(1, 2) for quantitative estimation of Enterococci in water, foods, sewage and other materials suspected of contamination with sewage. Azide Dextrose Broth w/ BCP is similar in composition to Azide Dextrose Broth with the addition of bromocresol purple. This medium is recommended by the ISO Committee for the detection and enumeration of faecal Streptococci in water as per ISO 7899-1:1984 ⁽³⁾

It is a highly nutritious medium due to the presence of nutrient rich casein enzymic hydrolysate, meat extract and glucose. Sodium azide inhibits growth of gram-negative bacteria, allowing Enterococci to grow ^(1, 4, 5). Sodium chloride maintains the osmotic equilibrium of the medium. Bromo cresol purple is the pH indicator dye that changes to yellow colour under acidic conditions. Turbidity in tubes along with colour change to yellow indicates presence of Enterococci.

Methodology

Suspend 34.7 grams of powder media in 1000 ml distilled water. Shake well and heat, if necessary, to ensure complete solution. Dispense in test tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

Quality Control

Physical Appearance

Cream to yellow coloured, may have slight green tinge homogeneous free flowing powder

Colour and Clarity of prepared medium

Purple coloured clear solution without any precipitate.

Reaction

Reaction of 3.47% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH range

7.00-7.40

Cultural Response/Characteristics

DM2271: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Colour of medium
<i>Escherichia coli</i> ATCC25922	50-100	Inhibited	Purple
<i>Enterococcus faecalis</i> ATCC29212	50-100	good-luxuriant	yellow

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

1. Mallmann and Seligmann, 1950, Am. J. Publ. Health, 40:286.2.
2. Rothe, 1948, Illinois State Health Department.3.
3. International Organization For Standardization (ISO), 1984, Draft ISO/DIS 7899
4. Edwards S.J., 1933, J. Comp. Path. Therap., 46:2111.
5. Hartman G., 1937, Milchw. Forsch, 18:166.
6. Schleider K.H., Kilpper Bolz R., 1984, Int.J.Sys.Bacteriol., 34:31

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