



Azide Dextrose Broth w/ BCP

M1271

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

Directions

Suspend 34.7 grams in 1000 ml distilled water. 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.

Principle And Interpretation

Enterococci are more resistant to chlorine in water, hence are better indicators of sewage pollution than Escherichia coli. Until 1984, members of the genus Enterococcus were classified as Group D Streptococci. 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 determination 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 indicate presence of Enterococci.

Quality Control

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

7.00-7.40

Cultural Response

M1271: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Colour of medium
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Cultural Response

<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited	purple
<i>Enterococcus faecalis</i> ATCC 50-100 29212		good-luxuriant	yellow

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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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