

AZIDE DEXTROSE BROTH

CAT N°: 1422

For enterococci preliminary test and selective enrichment

FORMULA IN g/l

Casein Peptone	15.00	Beef Extract	4.50
Dextrose	7.50	Sodium Azide	0.20
Sodium Chloride	7.50		

Final pH 7.2 ± 0.2 at 25°C

PREPARATION

Suspend 34.7 grams of the medium in one liter of distilled water (69.4 grams if double concentration is desired). Mix well and dissolve by heating with frequent agitation until boiling point. DO NOT OVERHEAT. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes. The prepared medium should be stored at 2-8°C. The color is yellowish brown.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

Caution: This medium is toxic if swallowed, inhaled or comes into contact with skin. Wear gloves and eye/face protection.

USES

AZIDE DEXTROSE BROTH is used for the detection and enumeration of enterococci/streptococci in water, sewage, foods and other materials. The medium contains Sodium azide that inhibits the growth of the accompanying flora in Gram negative bacteria and permits the growth of enterococci.

The presence of enterococci is an indicator for faecal contamination, especially when occurred a long time ago and the less resistant coliform bacteria, including *Escherichia coli*, may already be dead when the analysis is carried out.

Beef Extract and Casein peptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Dextrose is the fermentable carbohydrate providing carbon and energy. Sodium chloride supplies essential electrolytes for transport and osmotic balance. The use of Sodium azide to selectively inhibit Gram negative bacteria first appeared in the studies of EDWARDS (1938) on the isolation of *Streptococcus agalactiae*, later was showed that Sodium azide can also be used for the isolation of enterococci from water.

Incubate inoculated tubes at 35°C ± 2°C and observe after 24-48 hours. Turbidity in tubes indicates presence of enterococci however, it should be further confirmed in EVA Broth (Cat.1230).

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C and observed after 24 - 48 hours.

Microorganisms	Growth
<i>Enterococcus faecalis</i> ATCC 11700	Good
<i>Enterococcus faecalis</i> ATCC 19433	Good
<i>Streptococcus bovis</i> dsm 20065	Scarce
<i>Escherichia coli</i> ATCC 25922	Inhibited

BIBLIOGRAPHY

American Public Health Association, American Water Works Association and Water Pollution Control Federation: Standard Methods for the Examination of Water and Wastewater, 20th ed., Washington, 1998.

EDWARDS, S.J.: The diagnosis of *Streptococcus mastitis* by cultural methods. J. Comp. Path Therap. 51; 250-263 (1938).

LITSKY, W., MALLMANN, W.L., a. FIFIELD, C.W.: A new medium for the detection of enterococci in water. - Amer. J. Publ. Hlth., 43; 873-879 (1953).

Verordnung Trinkwasser und über Wasser für Lebensmittelbetriebe (Trinkwasserverordnung) vom 22. Mai 1986. - Bundesgesetzblatt, Teil I, 760-773 (1986).

STORAGE

Once opened keep powdered medium closed to avoid hydration.

