

EVA Broth (Ethyl, Violet, Azide, Litsky)

Cat. 1230

Selective medium for the confirmation and detection of enterococci and as a detector of fecal contamination in water

Practical information

| Applications | Categories |
|--------------|-------------|
| Detection | Enterococci |

Industry: Environmental monitoring / Food

Principles and uses

EVA Broth (Ethyl, Violet, Azide, Litsky) is a selective medium specific for the detection and confirmation of enterococci in water, other specimens and foods. It is an indication of fecal contamination. EVA Broth, in conjunction with Rothe Broth (Glucose Broth with Azide - Cat. 1238) as the presumptive medium, is used to enumerate fecal enterococci in water, soil and food products by the MPN technique.

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

Sodium azide and Ethyl violet inhibit all Gram-positive bacilli and Gram positive cocci except enterococci and Gram negative bacteria. Peptone mixture provides nitrogen, vitamins, minerals and amino acids essential for growth. Dextrose is the fermentable carbohydrate providing carbon and energy. Potassium phosphates act as a buffer system, and Sodium chloride supplies essential electrolytes for transport and osmotic balance.

Formula in g/L

| | | | |
|-------------------------|--------|-----------------------|-----|
| Dextrose | 5 | Dipotassium phosphate | 2,7 |
| Monopotassium phosphate | 2,7 | Peptone mixture | 20 |
| Sodium azide | 0,4 | Sodium chloride | 5 |
| Ethyl violet | 0,0008 | | |

Preparation

Suspend 35,8 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense 10 ml amounts into test tubes and sterilize in autoclave at 121 °C for 15 minutes. It is recommended to use a large inoculum as the medium is very selective and is used in the second phase of confirmation.

Instructions for use

The tubes are inoculated with the appropriate dilutions in series of 3 tubes for each dilution and incubated at 35±2 °C for 24-48 hours. The appearance of turbidity and, eventually, the formation of a violet (purple) button of growth at the bottom of the tube are characteristics of enterococci growth.

Quality control

| Solubility | Appearance | Color of the dehydrated medium | Color of the prepared medium | Final pH (25°C) |
|------------|-------------|--------------------------------|------------------------------|-----------------|
| w/o rests | Fine powder | Light beige | Greyish | 7,0±0,2 |

Microbiological test

Incubation conditions: (35±2 °C / 24-48 h).

| Microrganisms | Specification |
|---|---------------|
| <i>Enterococcus faecalis</i> ATCC 19433 | Good growth |

Streptococcus pyogenes ATCC 19615
Escherichia coli ATCC 25922
Staphylococcus aureus ATCC 25923
Enterococcus faecalis ATCC 29212

Inhibited growth
Inhibited growth
Inhibited growth
Good growth

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Litsky W. Mallmann W.L Fifield C.W. A.J.P.H 1953. 43. 873-879.
Mallman and Seligman. 195 A.J.P.H 40:286.