Enterococcus Selective Broth (Emterococcosel Broth)

Cat. 1204

For the selective growth from clinical samples.

Practical information

Aplications	Categories
Selective isolation	Enterococci

Industry: Clinical

Principles and uses

Enterococcus Selective Broth (Emterococcosel Broth) is a sensitive enrichment medium for the isolation of enterococci from specimens containing numerous other flora. Many organisms such as saprophytic Neisseria, Staphylococcus, Haemophilus, non-hemolytic streptococci, and a certain number of Enterobacteriaceae are inhibited wholly or partially.

Casein and Soy peptones provide essential nutrients for growth. Dextrose is the fermentable carbohydrate energy source. Sodium chloride maintains the osmotic balance. Sodium citrate provides additional carbon. Sodium azide is an inhibitor. Sodium sulfite when reduced produces H2S. L-Cystine lowers the oxidation-reduction potential by removing oxygen to maintain a low Eh. Crystal violet is a pH indicator.

Clinical material is inoculated into this selective medium and tubes are incubated at 35 °C for 18-24 hours in a normal atmosphere. The growth of streptococci can be determined by the formation of a granular precipitate at the bottom of the tube, with the liquid above being clean or slightly turbid. At this point, perform a Gram stain and restreak on Trypticasein Soy Agar (Cat. 1068) blood plates or Blood Agar Base (Cat. 1108) to determine the type of hemolysis and to purify the culture.

The presence of variable length chains of gram-positive cocci inhibited by bacitracin in a low concentration, catalase negative and insoluble in bile or bile salts, constitute a valid presumptive identification of Group A beta-hemolytic streptococci. The definitive identification of the streptococci groups can be made by performing other biochemical tests such as esculin hydrolysis, pyruvate hydrolysis, etc. Also, serological typing, using Lancefield antisera methods, or more conveniently, the techniques of co-agglutination of Edwards and Larson can be performed.

Formula in g/L

Dextrose	5	Casein peptone	15
Crystal violet	0,0002	L-Cystine	0,2
Sodium azide	0,2	Sodium chloride	4
Sodium citrate	1	Sodium sulfite	0,2
Soy peptone	5		

Preparation

Suspend 30,6 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense in 10 ml screw-capped tubes and sterilize in autoclave at 118 ºC for 15 minutes. DO NOT OVERHEAT as the medium will become too inhibitory.

Instructions for use

To differentiate streptococci and pneumococci place bacitracin and optochin discs in the area of the inoculum on the Blood Agar plates and incubate for 18-24 hours at 35±2 °C under the recommended conditions.

Perform a Gram stain, catalase and bile solubility tests on characteristic colonies taken from the Blood Agar plate or from the growth obtained from the broth.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Clear amber with violet tint	7.4±0.2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microorganisms	Specification
Enterococcus faecalis ATCC 19433	Good growth
Enterococcus faecium ATCC 19434	Good growth
Escherichia coli ATCC 25922	Total inhibition

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Washington, D.C. 2nd Ed., 1974
Facklam and Carly, 1985, Mannual of Clinical Miocrobiology, Lennette and others (Eds). 4th Ed. ASM, Washington DC.