KF Streptococcal Broth

Cat. 1346

For the isolation of Enterococcus faecalis.

Practical information

Aplications	Categories
Selective enumeration	Enterococci

Industry: Water

Principles and uses

KF (Kenner Fecal) Streptococcal Broth was developed by Kenner et al. for the detection and enumeration of enterococci in waters. They found that this formulation was superior to other liquid media for the recovery of enterococci in Most Probable Number (MPN) test systems. The medium is not specific for the presumptive identification of group D streptococci. The addition of 1% TTC (2,3,5-Triphenyl Tetrazolium Chloride), in the membrane filter procedure causes the enterococci to have a deep red color as a result of tetrazolium reduction to formazan, an insoluble red pigment, by actively growing microbial cells.

Peptone mixture provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Maltose and Lactose are the fermentable carbohydrates as carbon and energy sources. Sodium glycerophosphate is a buffering agent. Sodium azide is a selective agent that inhibits Gram-negative bacteria. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bromocresol purple is the pH indicator with a color change from purple to yellow.

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

Formula in g/L

Bromocresol purple	0,015	Lactose	1
Maltose	20	Sodium azide	0,4
Sodium chloride	5	Sodium glycerophosphate	10
Yeast extract	10	Peptone Proteose Nº3	10

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 56,4 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. Sterilize in autoclave at 121 ºC for 10 minutes. Cool to 45-50 ºC and aseptically add two vials of 1% TTC supplement (Cat. 6030), previously reconstituted in 5 ml of sterile distilled water. Homogenize gently and dispense into sterile containers.

Instructions for use

Inoculate and incubate at 35±1 ºC in a atmosphere saturated with water vapour for 46-48 hours.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Purple	7,2±0,2

Microbiological test

Incubation conditions: (35±1 ºC / 46-48 h).

Microorganisms	Specification	Characteristic reaction
Klebsiella aerogenes ATCC 13048	Total inhibition	
Enterococcus faecalis ATCC 19433	Good growth	Red colonies
Escherichia coli ATCC 25922	Total inhibition	
Enterococcus faecalis ATCC 29212	Good growth	Red colonies

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Kenner, Clark and Kabler. 1961. Appl. Microbiol. 9.15.2. MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md
Facldam and Moody. 1970. Appl. Microbiol. 20.245.