KF Streptococcal Broth Base

M249

KF Streptococcal Broth is used for detection and enumeration of faecal Streptococci in water and for examination of faeces and other materials.

Composition**

Ingredients	Gms / Litre
Peptone, special	10.000
Yeast extract	10.000
Sodium chloride	5.000
Sodium glycerophosphate	10.000
Sodium carbonate	0.636
Maltose	20.000
Lactose	1.000
Sodium azide	0.400
Phenol red	0.018
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 57.05 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense and sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes. Cool to 50°C and aseptically add 10 ml of 1% 2, 3, 5-Triphenyl Tetrazolium Chloride (TTC) (FD057) to sterile cooled medium.

Warning : Sodium azide has tendency to form explosive metal azides with plumbing materials.It is advisable to use enough water to flush off the disposable.

Principle And Interpretation

Streptococci are spherical, gram-positive bacteria and form a part of the normal commensal flora of the mouth, skin, intestine, upper respiratory tract of humans. Streptococci found in the faeces form the faecal Streptococci and constitute of Streptococci with group D Lancefield antigens. The types include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus bovis* and *Streptococcus duran* . They are low-grade pathogens and rarely cause disease. However, they may cause urinary tract infection in catheterized patients; mixed abdominal wound infections following gut surgery; and endocarditis on abnormal valves. Kenner-Faecal (KF) Medium were developed by Kenner et al (1, 2) for detecting Streptococci in water and food materials.

Special peptone along with yeast extract provide nitrogen, carbon, sulphur, amino acids, vitamins and trace ingredients to the faecal Streptococci. Lactose and maltose are the fermentable carbohydrates and therefore serve as energy sources. Sodium azide is a selective agent, which hampers the growth of gram-negative bacteria.

2, 3, 5-Triphenyl Tetrazolium Chloride is reduced to insoluble formazan by actively metabolizing cells, resulting in the formation of pink or red colour. Bacteria resistant to azide, utilize lactose and / or maltose. Bacterial cells reduce TTC to insoluble formazan, resulting in the formation of pink to red colour.

Quality Control

Appearance

Light yellow to pinkish beige homogeneous free flowing powder

Colour and Clarity of prepared medium

Red coloured, clear solution without any precipitate

Reaction

Reaction of 5.7% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 48-72 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Colour of medium
Cultural Response			
Escherichia coli ATCC 25922	>=10^3	inhibited	
Enterobacter aerogenes ATCC 13048	>=10^3	inhibited	
Enterococcus faecalis ATCC 29212	50-100	good-luxuriant	yellow

Storage and Shelf Life

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

Reference

1.Kenner B. A., Clark H. F. and Kabler P. W., 1960, Am. J. Public Health, 50:1553.
2.Kenner B. A., Clark H. F. and Kabler P. W., 1961, Appl. Microbiol., 9:15.

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