KF Streptococcal Broth Base

M249

Intended Use:

Recommended for detection and enumeration of faecal Streptococci in waters 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 β-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 purified/distilled water. Heat if necessary to dissolve the medium completely. Dispense in to tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes. Cool to 45-50°C. If desired, for use in the membrane filter technique, 1 ml of 1% 2,3,5 Triphenyl Tetrazolium Chloride (TTC) may be added to each 100 ml of sterile cooled broth.

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.

Type of specimen

Water sample

Specimen Collection and Handling:

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards. (3) After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

Read the label before opening the container. The media should be handled by trained personnel only. Ear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temmperature.

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.

Organism	Inoculum (CFU)	Growth	Colour of medium
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	
# *Klebsiella aerogenes* ATCC 13048 (00175*)	>=10^4	inhibited	
Enterococcus faecalis ATCC 29212 (00087*)	50-100	good-luxuriant	yellow

Key : (*) Corresponding WDCM numbers. (#) Formerly known as *Enterobacter aerogenes*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

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.
3. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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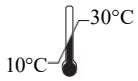
IVD *In vitro* diagnostic medical device



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
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CE Marking

Do not use if package is damaged

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