Technical Information

SF Broth

Product Code: DM 1297

Application: SF (Streptococcus faecalis) Broth is a selective medium used for detection and differentiation of Enterococci from other cocci in diagnostic work.

Composition**

Ingredients	Gms / Litre
Casein enzymatic hydrolysate	20.000
Dextrose	5.000
Dipotassium phosphate	4.000
Monopotassium phosphate	1.500
Sodium azide	0.500
Sodium chloride	5.000
Bromo cresol purple	0.032
Final pH (at 25°C)	6.9±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

For the detection of faecal Streptococci in the swimming pools, water and milk samples, SF broth is prepared according to the formula of Hajna and Perry [1] is also recommended for detection of faecal streptococci in drinking water and other samples [2]. Streptococci grow at 45.5°C with an acidic reaction, seen as colour change from purple to yellow. However for final Confirmation a supplementary incubation in Petri plates is recommended.

Casein enzymic hydrolysate provides essential growth nutrients. Dextrose is the fermentable carbohydrate. Sodium azide inhibits growth of gram-negative organisms making it selective for Enterococci. Bromo cresol purple is the pH indicator. Phosphates buffer the medium while sodium chloride maintains osmotic equilibrium.

Methodology

Suspend 36.03 grams of powder media in 1000 ml distilled water. For double strength broth use 72.06 grams of the sample in 1000 ml distilled water. Shake well & heat if necessary to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

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

Quality Control

Physical Appearance
Cream to light green homogeneous free flowing powder

Colour and Clarity of prepared medium
Purple coloured clear solution without any precipitate

Reaction
Reaction of 3.6% w/v aqueous solution at 25°C. pH : 6.9±0.2

pH range 6.7-7.1

Cultural Response/Characteristics
DM 1297: Cultural characteristics observed after an incubation at 45-46°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Colour of medium
Escherichia coli ATCC 25922	>=10^3	inhibited	purple
Enterococcus faecalis ATCC 29212	50-100	luxuriant	Yellow
Streptococcus bovis ATCC 33317	50-100	None-poor	Purple
Streptococcus pyogenes ATCC 19615	50-100	None-poor	Purple
Enterococcus faecium ATCC 27270	50-100	luxuriant	Yellow

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Hajna and Perry, 1943, Am. J. Publ. Hlth., 33:550.
2. Eaton A. D., Clesceri L. S., Rice E. W., and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Waste water, 21st Ed., APHA, Washington, D.C.

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