Differential Agar for Group D Streptococci

M1049

Differential Agar for Group D Streptococci is used for the differentiation and identification of Group D Streptococci.

Composition**

Ingredients	Gms / Litre
Brain heart infusion	8.000
Peptic digest of animal tissue	5.000
Casein enzymic hydrolysate	16.000
Dextrose	10.000
Sodium chloride	65.000
Disodium hydrogen orthophosphate	2.500
Bromocresol purple	0.020
Agar	13.500
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 12 grams in 100 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow to cool in a slanted position.

Principle And Interpretation

Most strains of Group D Streptococci are now classified in the genus *Enterococcus* (1). These organisms are found as normal flora in the gastrointestinal tracts of humans and animals. They are becoming increasingly important agents of human disease, largely because of their resistance to antimicrobial agents to which other Streptococci are generally susceptible (2). The most common species are *Enterococcus faecalis* and *Enterococcus faecium* . These organisms grow on media with high salt content and are usually non-haemolytic, but sometimes show alpha or beta-haemolysis. It can withstand heat at 60°C for 30 minutes, a distinguishing feature from other streptococci, and also grow within a wider temperature range (10-45°C). They ferment sugars with acid production. Differential Agar for Group D Streptococci is a modification of SF Broth (Streptococcus faecalis Broth) (3).

Brain heart infusion, peptic digest of animal tissue and casein enzymic hydrolysate in the medium provide necessary nitrogenous compounds and other essential nutrients for growth. Dextrose is the energy source. Sodium chloride at 6.5% concentration makes the medium differential for *Enterococcus* and *Streptococcus* . Growth on this medium turns yellow due to acid production. A negative reaction is indicated by no change in the purple colour of the medium.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.35% Agar gel.

Colour and Clarity of prepared medium
Purple coloured, clear to slightly opalescent gel forms in tubes as slants

Reaction
Reaction of 12% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
M1049: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Acid production
Cultural Response			
Enterococcus faecalis ATCC 29212	50-100	luxuriant	positive reaction,yellow colour
Enterococcus faecium ATCC 27273	50-100	luxuriant	positive reaction,yellow colour

Storage and Shelf Life

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

Reference

1. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
2. Koneman E. W., Allen S. D., Janda W. M., Schreckenberger P. C., Winn W. C. Jr., 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4th Ed., J. B. Lippinccott Company Philadelphia, Pg. 440.
3. Atlas R. M., 1997, Handbook of Microbiological Media, 2nd Ed., Parks L.C., (Ed.), CRC Press, New York.

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