

Bases / Media Supplements

Technical Information

Differential Agar for Group D Streptococci

Product Code: DM 2049

Application: - Differential Agar for Group D Streptococci is recommended 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

Principle & 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 supply necessary nitrogenous compounds and other essential nutrients for growth. Dextrose acts as a 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.

Methodology

Suspend 12 grams of dehydrated powder media in 100 ml distilled water. Mix thoroughly & heat to boil 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.

Quality Control

Appearance Cream to yellow homogeneous free flowing powder Gelling Firm, comparable with 1.35% Agar gel.

Colour and Clarity

Purple coloured, clear to slightly opalescent gel forms in tubes as slants





Dehydrated Culture Media Bases / Media Supplements

Reaction

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

pH Range

7.20-7.60

Cultural Response

DM2049: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Acid production
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

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label. **Prepared Media**: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

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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