Technical Information

Salt Agar, Modified

Product Code: DM 2767

Application: - Salt Agar, Modified is recommended for isolation and differentiation of the enterococcal group D Streptococci from non-enterococcal group D streptococci based on salt tolerance.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Heart infusion	10.000
Glucose	1.000
Sodium chloride	65.000
Bromocresol purple	0.016
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Salt Agar, Modified is recommended for differentiating enterococcal group D streptococci from non-enterococcal group D streptococci. Medium containing 6.5% sodium chloride is used to differentiate Enterococci by determining salt tolerance of bile esculin positive and catalase negative cocci (2). High salt content of this medium acts as a differential and selective agent by interfering with membrane permeability and osmotic equilibrium (1). Enterococcal group D *Streptococcus* species (*Enterococcus faecalis*, *Enterococcus faecium*, *Enterococcus durans* and *Enterococcus avium*) can be easily differentiated from the non-enterococcal species like *Streptococcus bovis*, *Streptococcus equines*, by the 6.5% sodium chloride tolerance test.

Heart infusion and peptic digest of animal tissue supplies essential nitrogenous nutrients while glucose is the carbohydrate source in the medium. Bromocresol purple is the pH indicator which turns yellow from purple at acidic pH (2). Sodium chloride acts as differential and selective agent. Growth is indicated by turbidity and sometimes changes in colour of the indicator. A change in colour from purple to yellow also may occur due to utilization of glucose and thereby acid production. Serological group D streptococci or bile esculin positive isolate may be easily identified as an *Enterococcus* species.

Methodology

Suspend 101.01 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Shake well before pour into sterile Petri plates.

Quality Control

Appearance
Cream to greenish yellow homogeneous free flowing powder.

Gelling
Firm, comparable with 1.5% Agar gel.

Colour and Clarity
Purple coloured clear to slightly opalescent solution.

Reaction
Reaction of 10.1% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH Range
7.00-7.40

Cultural Response
DM2767: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Streptococcus bovis ATCC 980	>=10^3	inhibited	0%
Enterococcus faecalis ATCC 29212	50-100	good	>=70%

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. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. 1, Williams Wilkins, Baltimore, Md.

2. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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