



Salt Broth, Modified

M1290

Salt Broth, Modified is used for cultivation 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
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 86.01 grams in 1000 ml distilled water. Heat if necessary, to dissolve the medium completely. Dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Salt Broth, Modified is used 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 provide 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 serves 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.

Quality Control

Appearance

Cream to greenish yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Purple coloured clear to slightly opalescent solution

Reaction

Reaction of 8.6% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

M1290: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
Cultural Response <i>Streptococcus bovis</i> ATCC 9809	≥10 ³	inhibited
<i>Enterococcus faecalis</i> ATCC 50-100 29212		good

Storage and Shelf Life

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

Reference

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 Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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