Islams Medium Base for Group B Streptococci

M998

Intended Use:

Recommended for identification and cultivation of group B Streptococci from clinical specimens.

Composition**

Ingredients	Gms / Litre
Proteose peptone	23.000
Starch, soluble	5.000
Sodium dihydrogen phosphate	1.482
Disodium hydrogen phosphate	5.749
Agar	10.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 45.23 grams in 950 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 115°C for 10 minutes. Cool to 45-50°C and aseptically add 50 ml sterile inactivated horse serum (RM1239), (inactivated by heating at 56°C for 30 minutes). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Islam (2) formulated this medium to exploit the ability of most Group B Streptococci to produce orange/red-pigmented colonies when incubated under anaerobic conditions. Lancefield first noted carotenoid pigmentation, characteristic of group B Streptococci when incubated under anaerobic conditions (6). This medium also supports growth of other genital bacteria that cause neonatal infection (2) such as anaerobic *Streptococcus, Bacteroides* and *Clostridium* species.

Proteose peptone provides the necessary nutrients for the growth of Group B Streptococci. Disodium and monosodium phosphates provide buffering to the medium.

Pigmentation can be enhanced by adding trimethoprim / sulphonamides (1). No inhibition of growth occurs and the pigmentation is seen clearly over a radius of 10-20 mm. The medium must have the correct pH to ensure good pigmentation but some strains of Group B Streptococci do not produce pigmented colonies (3). Other organisms that can grow on this medium do not produce the characteristic orange-red pigment. Inoculate the specimen swab onto the surface of Islams Medium. If desired, apply a disc containing 300 or 500µg of sulphafurazole onto an area of the plate where growth can be expected to be moderately profuse. Incubate the plates anaerobically at 35°C for 24 to 48 hours.

Type of specimen

Clinical samples - Vaginal or rectal swab

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. The medium must have the correct pH to ensure good pigmentation but some strains of Group B Streptococci do not produce pigmented colonies (4).

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.0% Agar gel.

Colour and Clarity of prepared medium
Yellow coloured, clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 4.5% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
Cultural characteristics observed with added sterile inactivated horse serum (RM1239),after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Pigmentation
Bacteroides fragilis ATCC 25285	50-100	fair-good	40-50%	no pigmentation
Enterococcus faecalis ATCC 29212 (00087*)	50-100	luxuriant	>=70%	no pigmentation
Streptococcus agalactiae ATCC 13813	50-100	luxuriant	>=70%	orange/red

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference

1. de al Rosa M., Villareal R., Vega D., Miranda C. and Martinezbrocal A., 1983, J. Clin. Microbiol., 18:779.
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3. Islam A. K. M. S., 1981, J. Clin. Pathol., 34:78.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
6. Merrit K. and Jacobs N. J., 1978, J. Clin. Microbiol., 8:105.

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