



Ready Prepared Media

Technical Information

GBS Agar Plate

Product Code: PM 6384

Application: Recommended for rapid detection of group B Streptococci from clinical specimens .

Composition**

Ingredients	Gms / Litre
Proteose peptone	23.000
Sodium dihydrogen phosphate	1.500
Disodium hydrogen phosphate	5.750
Starch, soluble	80.000
Agar	15.000
Metronidazole	10mg
Gentamicin	2mg
Horse serum	25ml
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Beta-haemolytic Streptococci with Lancefield group B antigen (*Streptococcus agalactiae*) are an important cause of serious neonatal infection characterized by sepsis and meningitis. Heavy colonization of the maternal genital tract is associated with colonization of infants and risk of neonatal disease (6). GBS Medium, formulated by Islam (1,2,5) is recommended for the isolation and detection of group B Streptococci (GBS) from clinical specimens. GBS Medium is designed to exploit the ability of most Group B Streptococci (GBS) to produce orange/red pigmented colonies when incubated under anaerobic conditions. The orange red pigment of group B Streptococci also has the characteristic of a carotenoid (5). GBS Medium Base also supports growth of other genital bacteria that cause perinatal infections (6), e.g. anaerobic *Streptococcus*, *Bacteroides* and *Clostridium* species.

Proteose peptone provides the necessary nutrients for the growth of Group B Streptococci. The phosphate salts buffer the medium. The antibiotic Metronidazole and Gentamicin makes the medium selective for Group B Streptococci, while the horse serum enriches the medium. Species such as *Gardenerella vaginalis* gets inhibited by Metronidazole. Anaerobic bacteria such as fusobacteria, and clostridia gets inhibited by metrinidazole.

Vaginal or rectal swabs should be inserted vertically into the medium. Incubation is carried out at 35-37°C. Pigment production is observed at hourly interval. Presence of blood in the specimen may give false positive results. Presumptively positive tubes should be further confirmed by biochemical analysis to identify Group B Streptococci.

Type of specimen

Clinical specimen: vaginal and rectal swabs or transport medium having these swabs .



Ready Prepared Media

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Individual strain of a microorganism may have unique growth requirements with respect to nutrients and physical conditions. Based on which the growth pattern of each varies on a medium and some even may display significant delay.
2. Some pathogenic fungi may produce infective spores which are easily dispersed in air, so examination should be carried out in safety cabinet.
3. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirements.
4. Further biochemical tests should be carried out for complete identification.

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.

Methodology

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate. Specimen swabs can be directly surface spread onto the medium plate.

Quality Control

Appearance

Sterile GBS Agar Plate in 90mm disposable plates with smooth surface & absence of black particles/ cracks/ bubbles.

Colour

Light amber to yellow coloured medium

Reaction

7.30-7.70

Quantity of medium

25 ml of medium in 90 mm Petri plate

Sterility test

Passes release criteria



Ready Prepared Media

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Pigmentation
Bacteroides fragilis ATCC25285	50-100	Fair to good	No pigmentation
Streptococcus agalactiae ATCC 13813	50-100	Good-luxuriant	Orange/red
Enterococcus faecalis ATCC29212 (00087*)	50-100	Good-luxuriant	No pigmentation

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

- On receipt store between 2-8°C Use before expiry date on the label.
- 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 (3,4).

Further Reading

1. Atlas R. M. 2004, Handbook of Microbiology Media, 3rd Edition, CRC Press, 704-705.
2. Islam A. K. M. S., 1977, Lancet i : 256-7 (letter).
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. 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.
5. Merrit K. and Jacobs N. J. 1978, J. Clin. Microbiol. 8, 105-7.
6. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specifications for identity and performance parameters.