Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Sheep Blood Agar Plate

Product Code: PM 2301

Application: - Used for cultivation of fastidious organisms and studying haemolytic reactions. It provides improved and enhanced haemolysis

Composition**

Ingredients	Gms / Litre
Tryptone	14.000
Peptone	4.500
Yeast extract	4.500
Sodium chloride	5.000
Agar	12.500
Sterile sheep blood	70 ml
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Haemolysins are exotoxins produced by bacteria that lyse red blood cells. The haemolytic reaction can be visualized on blood agar plates. On blood agar plates colonies of haemolytic bacteria may be surrounded by clear, colourless zone where the red blood cells have been lysed and the haemoglobin destroyed to a colourless compound. This is beta haemolysis. Other types of bacteria can reduce haemoglobin to methaemoglobin which produces a greenish zone around the colonies and is called alpha haemolysis (1). Gamma haemolysis is no haemolysis where no change in the medium is observed (2). Blood Agar Base No. 2 (DM1834), supplemented with sheep blood is used to study haemolytic reactions (patterns) of organisms. But this gave mixed haemolytic (a and b) reactions due to the physiological differences between sheep blood and horse blood (3).

Sheep Blood Agar Base with added sheep blood was developed to allow maximum recovery of organisms without interfering with their haemolytic reactions. Sheep Blood Agar Base was formulated to be compatible with sheep blood and give improved haemolytic reactions of organisms. Tryptone, peptone and yeast extract provide nitrogen, carbon, amino acids and vitamins. Sodium chloride maintains the osmotic balance. Sheep Blood Agar Base showed considerable improvement and the expected beta haemolytic reactions with S.pyogenes in comparison to other blood agar bases supplemented with blood.

Type of specimen

Clinical material : Urine, faeces, pus, other pathological material

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 :

In Vitro diagnostic use only. For professional 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 organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Further biochemical and serological tests must be carried out for further 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.

Quality Control

Appearance
Sterile Sheep Blood Agar in 90 mm disposable plates with smooth surface and absence of black particles/ cracks/ bubbles.
Colour of medium
Red coloured medium
Quantity of medium
25ml of medium in disposable plate
pH
7.10-7.50
Sterility Test
Passes release criteria
Cultural Response
Cultural characteristics observed after incubation at 35-37°C for 14-48 hours.

Oragnism	Inoculum (CFU)	Growth	Recovery	Haemolysis
Streptococcus pneumoniae ATCC 6303	50-100	luxuriant	>=70%	alpha
Streptococcus pyogenes ATCC 19615	50-100	luxuriant	>=70%	beta

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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Further Reading

1. Pelczar M. J. Jr., Reid R. D., Chan E. C. S., 1977, Microbiology, 4th Ed., Tata McGraw-Hill Publishing Company Ltd, New Delhi.
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.
3. Spector W. S., (Ed.), 1961, Handbook of Biological Data, W. B. Saunder Company, Philadelphia and London.
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 Clinical Microbiology, 11th Edition. Vol. 1.

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 developmentwork carried at **CDH** is true and accurate
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