Ready Prepared Media

Technical Information

Schaedler Agar Plate

Product Code: PM 1291

Application: Recommended for isolation and enumeration of anaerobic bacteria.

Composition**

Ingredients	Gms / Litre
Tryptone	5.670
Proteose peptone	5.000
Soya peptone	1.000
Yeast extract	5.000
Dextrose (Glucose)	5.830
Sodium chloride	1.670
Dipotassium hydrogen phosphate	0.830
Tris (hydroxymethyl) aminomethane	3.000
L-Cystine	0.400
Hemin	0.010
Agar	15.000
Final pH (at 25°C)	7.6±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Schaedler Agar was originally formulated by Schaedler et al (11) and further modified by Mata et al (9) with formulation changes (8) for cultivation and enumeration of aerobic and anaerobic microorganisms.

Schaedler Agar supplemented with Vitamin K1 and 5% sheep blood is used for the recovery of fastidious anaerobic bacteria such as *Bacteroides.* Inclusion of Colistin and Nalidixic acid in the formulation (Schaedler CNA Agar) along with 5% sheep blood is used for the selective isolation of the anaerobic gram-positive cocci (1), *Peptococcus* and *Peptostreptococcus* species. Inclusion of Kanamycin and Vancomycin in the formulation (Schaedler KV Agar) along with 5% sheep blood is used for selective isolation of gram-negative anaerobes.

Schaedler Agar serve as an excellent basal media to which blood or other enrichments can be added to enhance the recovery of fastidious anaerobic organisms.

The combination of tryptone, proteose peptone and Soya peptone, Yeast extract and L-cystine provide nitrogenous growth factors, vitamins and other essential growth nutrients. Dextrose serves as energy source. Hemin and sheep blood stimulates the growth of fastidious microorganisms and stimulates growth of other Bacteroides species and gram-positive spore formers

(2). Addition of Sodium Polyanethol Sulphonate (SPS) is recommended when using this medium for blood culture (10). It inhibits phagocytosis and neutralizes the antibacterial activity of fresh blood components (3,7). Vitamin K1 enables the cultivation of *Bacteroides melaninogenicus* (4) and stimulates growth of other *Bacteroides* species and gram-positive spore formers (2).

Type of specimen

Clinical samples - Blood, Genital specimen, Upper respiratory swab, Endotracheal Aspiration swab

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6). After use, contaminated materials must be sterilized by autoclaving before discarding

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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

- Hemin and sheep blood stimulates the growth of fastidious microorganisms and stimulates growth of other *Bacteroides* species and gram-positive spore formers

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 Schaedler Agar in 90mm disposable plates
Colour of medium
Light amber coloured
Quantity of medium
25 ml of medium in 90 mm disposable plates.
Reaction
7.40-7.80
Sterility Test
Passes release criteria
Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours under anaerobic condition.

Oragnism	Inoculum (CFU)	Growth	Recovery
Bacteroides fragilis ATCC 25285	50-100	luxuriant	>=50%
Clostridium butyricum ATCC 13732	50-100	luxuriant	>=50%
Clostridium perfringens ATCC 12924	50-100	luxuriant	>=50%
Clostridium sporogenes ATCC 11437	50-100	luxuriant	>=50%
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	0%
Streptococcus pyogenes ATCC 19615	50-100	luxuriant	>=50%

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.

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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 (5,6).

Further Reading

1. Estevez, 1984, Lab Med., 15:258.
2. Finegold et al, 1974, Manual of Clinical Microbiology, 2nd ed., Lennette and others (Eds.), ASM, Washington, D.C.
3. Garrod, 1966, J. Pathol. Bacteriol., 91:621.
4. Gibbons R. J. and MacDonald J. B., 1960, J. Bacteriol., 80:164.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015)
7. Manual of Clinical Microbiology, 11th Edition. Vol. 1.Lowrence and Traub, 1969, Appl. Microbiol., 17:839.
8. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.I, Williams and Wilkins, Baltimore.
9. Mata L.J., Carrillo C. and Villatoro E., 1969, Appl. Microbiol., 17:596.
10. Rosner, 1968, Am. J. Clin. Pathol., 49:216.
11. Schaedler R.W., Dubos R. and Castello R., 1965, J. Exp. Med., 122:59.

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
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