



Ready Prepared Media

## Technical Information

### Phenyl Blood Agar Plate w/ 5% Sheep Blood

**Product Code: PM 1540**

**Application :** Recommended used for cultivation of fastidious anaerobic bacteria.

### Composition\*\*

Ingredients	Gms / Litre
Tryptone	15.000
Soya peptone	5.000
Yeast extract	5.000
Sodium chloride	5.000
Phenylethyl alcohol	2.500
L-Cystine	0.400
Vitamin K1	0.010
Hemin	0.005
Agar	20.000
Blood	50ml
Final pH ( at 25°C)	7.5±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Principle & Interpretation

Phenylethyl alcohol is a chemical agent that exhibits inhibitory action against gram-negative and certain gram-positive bacteria. Phenylethyl Blood Agar Base (Anaerobic) is used for the isolation of obligate anaerobic gram-positive and gram-negative bacteria (1). Supplementation of medium with L-cystine permits growth of certain thiol-dependent or sulphur containing amino acids-requiring bacteria (1,2) and fastidious Streptococci. This medium inhibits facultative anaerobic gram-negative bacteria such as *E. coli* and *Proteus* species.

Tryptone and Soya peptone provide nitrogen, carbon, sulfur and trace elements to the growing organisms. Addition of sheep blood provides many growth factors. Sodium chloride maintains osmotic equilibrium. Addition of phenylethanol to a nutritive medium permits the growth of gram-positive organisms but inhibits the gram-negative organisms found in the same specimen (3). Phenylethyl alcohol exerts inhibitory bacteriostatic action on gram-negative bacteria by inhibiting their DNA synthesis (4). Addition of hemin, vitamin K1 and L-cystine makes the medium more nutritious and suitable for the growth of fastidious anaerobic bacteria.

### Type of specimen

Clinical samples - faeces, pus, etc.

### 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.

### Warning and Precautions



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In Vitro diagnostic Use only. For professional use only. Read the label before opening the pack. 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. 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 requirement.
3. 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 Phenyl Blood Agar Plate w/ 5% Sheep Blood in 90 mm disposable plates with smooth surface and absence of black particles/cracks/bubbles

### Colour of medium

Cherry red coloured opaque colour medium

### pH

7.30-7.70

### Sterility Check

Passes release criteria

### Cultural Response

Cultural characteristics observed in an anaerobic condition after an incubation at 35-37°C for 48-72 hours (longer if necessary).

Organism	Inoculum (CFU)	Growth	Recovery
<i>Bacteroides fragilis</i> ATCC25285	50-100	good-luxuriant	>=50%
<i>Clostridium perfringens</i> ATCC 13124(00007*)	50-100	good-luxuriant	>=50%
<i>Clostridium butyricum</i> ATCC 9690	50-100	good-luxuriant	>=50%
<i>Clostridium sporogenes</i> ATCC 11437	50-100	good-luxuriant	>=50%
<i>Proteus mirabilis</i> ATCC25933	50-100	fair good	30-40%
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	non-poor	<=10%

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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

## Further Reading

1. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1, Williams and Wilkins, Baltimore
2. Allen S. D., Lombard G. L, Armfield A. Y., Thompson F. S. and Stargel M. D., Abstracts of the Annual Meeting of the American Society for Microbiology, Abstract C142, 1977, p. 59
3. Lilley B. D. and Brewer J. H., 1953, J. Am. Pharm. Assoc., 42:6.
4. Dowell, Hill and Altemeier, 1964, J. Bacteriol., 88:1811.
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) Manual of 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 development work carried at **CDH** is true and accurate
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