



Phenylethanol Agar Base

M269A

Intended Use:

For the selective isolation of gram positive organisms like *Staphylococci* and *Streptococci*.

Composition**

| Ingredients | g / L |
|---------------------|---------|
| Tryptone | 10.000 |
| HM peptone B # | 3.000 |
| Sodium chloride | 5.000 |
| Phenylethyl alcohol | 2.500 |
| Agar | 15.000 |
| Final pH (at 25°C) | 7.3±0.2 |

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef extract

Directions

Suspend 35.5 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. For preparing Blood agar, cool the medium to 45-50°C and aseptically add 5% v/v sterile defibrinated blood. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Phenylethyl alcohol is a chemical agent that exhibits inhibitory action against gram-negative and certain gram-positive bacteria. Phenylethanol Agar Base is formulated for the selective isolation of gram-positive bacteria (1). This medium can be supplemented with 5 % sheep blood. This medium is especially useful when specimens are contaminated with swarming *Proteus* species. It is also useful in the diagnostic studies of wounds and exudate cultures (2). However, Phenylethanol Agar Base cant be used to study haemolytic reactions as the results are atypical.

Tryptone provides 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 phenylethyl alcohol to a nutritive medium permits the growth of gram-positive organisms but inhibits the gram-negative organisms found in the same specimen (1). Phenylethyl alcohol exerts inhibitory bacteriostatic action on gram-negative bacteria by inhibiting their DNA synthesis (3).

Type of specimen

Clinical samples : pus and wounds swabs, faeces, etc.; Food samples

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6).

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

Warning and Precautions

In Vitro diagnostic use. 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. Phenylethyl Alcohol Agar cannot be used to study haemolytic reactions as the results are atypical.
3. Further biochemical and serological tests must be performed for confirmation.

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 1.5% Agar gel

Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.55% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 48 hours

| Organism | Inoculum (CFU) | Growth | Growth w/ 5% blood | Colour of Colony |
|---|----------------|-------------|--------------------|----------------------------------|
| <i>Escherichia coli</i> ATCC 25922 (00013*) | 50-100 | none - poor | none - poor | - |
| <i>Enterococcus faecalis</i> ATCC 29212 (00087*) | 50-100 | fair-good | good-luxuriant | blue-grey |
| <i>Salmonella</i> Typhi ATCC 6539 | 50-100 | none - fair | none - fair | - |
| <i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*) | 50-100 | none - poor | good-luxuriant | white to grey or cream to yellow |

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

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

Reference

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- Dowell, Hill and Altemeier, 1964, J. Bacteriol., 88:1811.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- 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.
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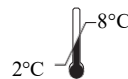
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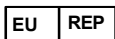
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