**INTENDED USE**

Remel Pseudomonas Cepacia (PC) Agar is a solid medium recommended for use in qualitative procedures for the isolation of *Burkholderia cepacia* complex from respiratory secretions of patients with cystic fibrosis.

**SUMMARY AND EXPLANATION**

In recent years, *Burkholderia cepacia* complex has emerged as a common pathogen affecting patients with cystic fibrosis (CF) disease and an important nosocomial pathogen.\(^1\)\(^2\) *B. cepacia* complex grows slowly and exhibits variable colony morphology on commonly used media for culture of respiratory specimens. As a result, it is easily obscured by overgrowth with *Pseudomonas aeruginosa*, other respiratory pathogens, and/or commensal microbial flora.\(^3\)\(^4\) A selective medium was formulated by Gilligan et al.\(^3\) to facilitate recovery of *B. cepacia* complex in the sputa of CF patients.\(^5\) A study by Carson et al. confirmed that use of PC Agar in clinical settings provided improved recovery of *B. cepacia* complex from respiratory specimens.\(^6\)

**PRINCIPLE**

Proteose peptone, inorganic salts, and pyruvate supply nutritive components. Crystal violet, bile salts, ticarcillin, and polymyxin B are the selective agents which inhibit organisms other than *B. cepacia* commonly found in respiratory secretions. *B. cepacia* metabolizes pyruvate resulting in alkaline end products which turn the medium from dull yellow to hot pink due to a change in the phenol red indicator.

**REAGENTS (CLASSICAL FORMULA)***

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bile Salts</td>
<td>1.5 g</td>
</tr>
<tr>
<td>Ammonium Sulfate</td>
<td>1.0 g</td>
</tr>
<tr>
<td>Proteose Peptone #3</td>
<td>1.0 g</td>
</tr>
<tr>
<td>Magnesium Sulfate</td>
<td>0.2 g</td>
</tr>
<tr>
<td>Ticarcillin</td>
<td>0.1 g</td>
</tr>
<tr>
<td>Phenol Red</td>
<td>0.02 g</td>
</tr>
<tr>
<td>Ferrous Ammonium Sulfate</td>
<td>0.01 g</td>
</tr>
<tr>
<td>Crystal Violet</td>
<td>1.0 mg</td>
</tr>
<tr>
<td>Pyruvic Acid 10%</td>
<td>50.0 ml</td>
</tr>
<tr>
<td>Agar</td>
<td>15.0 g</td>
</tr>
<tr>
<td>Potassium Phosphate Buffer</td>
<td>950.0 ml</td>
</tr>
</tbody>
</table>

pH 6.8 ± 0.2 @ 25°C  
\(*\)Adjusted as required to meet performance standards.

**PROCEDURE**

1. Inoculate and streak the specimen as soon as possible after it is received in the laboratory.
2. If the material is being cultured directly from a swab, roll the swab over a small area of the agar surface and streak for isolation.
3. Incubate the plate aerobically at 29-31°C for 48-72 hours.
4. Examine the plate for typical colony morphology. On PC Agar, *B. cepacia* complex colonies are gray-white in color and surrounded by pink to red zones. After 48-72 hours of growth, isolated colonies are 1-2 mm in diameter and the agar may turn hot pink in areas of heavy growth.
5. Colonies suspected of being *B. cepacia* complex should be definitively identified and confirmed by conventional biochemical testing following established laboratory procedures. Consult appropriate references for further instructions.\(^3\)\(^4\)

**QUALITY CONTROL**

All lot numbers of the Pseudomonas Cepacia (PC) Agar have been tested using the following quality control organisms and have been found to be acceptable. This quality control testing conforms with or exceeds CLSI standards.\(^7\) Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

**CONTROLS**

- *Burkholderia cepacia* ATCC® 25416
- *Escherichia coli* ATCC® 25922
- *Pseudomonas aeruginosa* ATCC® 27853
- *Staphylococcus aureus* ATCC® 25923

**INCUBATION**

- Aerobic, 48-72 h @ 29-31°C

**RESULTS**

- Growth w/ pink zone
- Inhibition (partial to complete)

**LIMITATIONS**

1. PC Agar cannot be considered a truly differential medium because other organisms growing on the agar may turn it pink.\(^5\)
2. Send all first time isolates of *B. cepacia* complex from a CF patient to a referral laboratory for identification confirmation (e.g., The Cystic Fibrosis Foundation *Burkholderia cepacia* Research Laboratory and Repository at the University of Michigan), as recommended by the International *Burkholderia cepacia* Working Group.\(^4\)
3. Possible isolates of *B. cepacia* complex that do not produce an acceptable identification or demonstrate negative reactions for lysine decarboxylase and/or oxidation of sucrose should be sent to a recognized reference laboratory for identification confirmation. Additional supplemental tests required for identification confirmation of *B. cepacia* complex include, at a minimum, maltose and lactose oxidation, lysine decarboxylase, and ONPG.\(^3\)\(^4\)
4. This formulation does not contain a selective agent against yeast or filamentous fungi. (Continued on back)
BIBLIOGRAPHY

Refer to the front of Remel Technical Manual of Microbiological Media for General Information regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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IFU 1709, Revised November 19, 2007

Printed in U.S.A.