Barritt Reagent A (for VP test)

The reagent is used in Voges-Proskauer test for detection of acetoin production by bacterial culture.

**Composition**

**Ingredients**
- a-Naphthol (1-Naphthol) 5.000 gm
- Absolute ethanol 100.000 ml

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

**Directions**

Grow test culture in MR-VP Medium (M070). Add 0.2 ml (2 drops) of Reagent A and 0.2 ml (2 drops) of Reagent B (R030) for 10 ml medium. Shake tubes gently for 30 seconds to 1 minute to expose the medium to atmospheric oxygen in order to oxidize the acetoin (acetylmethylcarbinol) so as to obtain a colour reaction. Allow tube to stand at least 10 to 15 minutes.

**Principle And Interpretation**

VP test is helpful in identifying members of the family Enterobacteriaceae. Initially all enterics will give a positive MR reaction if tested. However, after further incubation, required by the test procedure (2-5 days), MR - positive organisms continue to produce acids, resulting in a low pH (acidic) that overcomes the phosphate buffering system and maintain an acidic environment in the medium (pH 4.2 or less). MR- negative organisms further metabolize the initial fermentation products by decarboxylation to produce neutral acetyl methylcarbinol (acetoin), which results in decreased acidity in the medium and raises the pH towards neutrality (pH 6.0 or above). In the presence of atmospheric oxygen and alkali, the neutral end products, acetoin and 2, 3-butanediol, are oxidized to diacetyl, which react with creatine to produce a red colour.

**Quality Control**

**Appearance**
Colourless to reddish brown coloured solution.

**Clarity**
Clear without any precipitate.

**Cultural Response**
Biochemical identification was carried out by adding 0.6 ml of Barritt Reagent (Part A)(R029) and 0.2 ml of Barritt Reagent (Part B) (R030) in 24-48 hours old cultures grown in MR-VP Medium (M070).

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
<th>VP Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterobacter aerogenes</td>
<td>Luxuriant</td>
<td>Positive (Cherry red colour formation)</td>
</tr>
<tr>
<td>ATCC 13048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escherichia coli ATCC</td>
<td>Luxuriant</td>
<td>Negative (No red colour formation)</td>
</tr>
<tr>
<td>25922</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Klebsiella pneumoniae</td>
<td>Luxuriant</td>
<td>Positive (Cherry red colour formation)</td>
</tr>
<tr>
<td>ATCC 13883</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Storage and Shelf Life**
Store at 10-30°C in tightly closed container. Use before expiry period on the label.

**Reference**