VIOLET RED BILE AGAR (VRBA) WITH MUG CM0978

Typical Formula*

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount (grams per litre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast extract</td>
<td>3.0</td>
</tr>
<tr>
<td>Peptone</td>
<td>7.0</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.0</td>
</tr>
<tr>
<td>Bile salts No.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Lactose</td>
<td>10.0</td>
</tr>
<tr>
<td>Neutral red</td>
<td>0.03</td>
</tr>
<tr>
<td>Crystal violet</td>
<td>0.002</td>
</tr>
<tr>
<td>4-methylumbelliferyl-β-D-glucuronide (MUG)</td>
<td>0.1</td>
</tr>
<tr>
<td>Agar</td>
<td>12.0</td>
</tr>
</tbody>
</table>

* adjusted as required to meet performance standards

Directions

Suspend 38.6g in 1 litre of distilled water. With frequent agitation, bring to the boil to dissolve completely. Cool to 50°C. Mix well and pour into sterile Petri dishes or hold at 45°C when using the pour plate technique. DO NOT AUTOCLAVE.

Physical Characteristics

- Straw/pink, free-flowing powder
- Colour on reconstitution – pink/red or pink/orange
- Moisture level - less than or equal to 7%
- pH - 7.4 ± 0.2 at 25°C
- Clarity - clear
- Gel strength - firm, comparable to 12.0g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Reactions after incubation at 37°C for 24 hours

Inoculation using pour plate technique

Medium is challenged with 50-150 colony-forming units

- **Klebsiella pneumoniae** ATCC®29665 1-2mm purple/pink colonies, slight halo
- **Proteus mirabilis** ATCC®12453 Pinpoint-0.5mm purple/pink colonies, no halo
- **Escherichia coli** ATCC®8739 1-3mm purple/pink colonies with fluorescence
- **Escherichia coli** ATCC®25922 1-2mm purple/pink colonies with fluorescence
OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

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There shall be no gassing in the medium.

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Inoculation using surface plate technique

Medium is challenged with 10-100 colony-forming units

\[
\begin{align*}
\text{Shigella sonnei} & \quad \text{ATCC®25931} & \quad 1-2\text{mm straw colonies with fluorescence} \\
\text{Enterobacter aerogenes} & \quad \text{ATCC®13048} & \quad 0.5-2\text{mm pink colonies, dark centre} \\
\text{Pseudomonas aeruginosa} & \quad \text{ATCC®27853} & \quad 2-3\text{mm colourless/straw colonies}
\end{align*}
\]

After incubation examine plates using long wave UV light (365nm), plates inoculated with \textit{Escherichia coli} and \textit{Shigella sonnei} should exhibit a blue fluorescence.

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

\[
\begin{align*}
\text{Staphylococcus aureus} & \quad \text{ATCC®25923} & \quad \text{No growth} \\
\text{Enterococcus faecalis} & \quad \text{ATCC®29212} & \quad \text{No growth or pinpoint colourless/pink colonies} \\
\text{Proteus mirabilis} & \quad \text{ATCC®12453} & \quad 0.5-2\text{mm straw colonies, no swarming}
\end{align*}
\]

Negative strains are inhibited or produce a negative diagnostic reaction.
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Revision History

<table>
<thead>
<tr>
<th>Section / Step</th>
<th>Description of Change</th>
<th>Reason for Change</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Document</td>
<td>Update to new format and changes to test specification</td>
<td>Change control</td>
<td>BT-CC-1483</td>
</tr>
<tr>
<td>Entire Document</td>
<td>Addition of colour on reconstitution and correction of typographical/minor errors.</td>
<td>Change control</td>
<td>BT-CC-1936</td>
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