Schaedler Agar

Intended Use:
Recommended for enumeration of various aerobic and anaerobic bacterial species present in gastrointestinal tract. For Schaedler CNA Agar: add Vitamin K1 Supplement (FD114) and CNA Supplement (FD115) for Schaedler KV Agar: add Vitamin K1 Supplement (FD114) and KV Supplement (FD116) respectively to 1000 ml of Schaedler Agar (M291).

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tryptone</td>
<td>5.670</td>
</tr>
<tr>
<td>Proteose peptone</td>
<td>5.000</td>
</tr>
<tr>
<td>Soya peptone</td>
<td>1.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Dextrose (Glucose)</td>
<td>5.830</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>1.670</td>
</tr>
<tr>
<td>Dipotassium hydrogen phosphate</td>
<td>0.830</td>
</tr>
<tr>
<td>Tris (hydroxymethyl) aminomethane</td>
<td>3.000</td>
</tr>
<tr>
<td>L-Cystine</td>
<td>0.400</td>
</tr>
<tr>
<td>Hemin</td>
<td>0.010</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td><strong>Formula adjusted, standardized to suit performance parameters</strong></td>
<td></td>
</tr>
</tbody>
</table>

Directions
Suspend 43.41 grams in 950 ml purified / distilled water. Heat to boiling with frequent agitation to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and add 5% sterile defibrinated blood if desired. Mix well before dispensing. Avoid overheating and photooxidation of the medium, as it will retard the growth of bacteria.

If desired, add rehydrated contents of 1 vial each of Vitamin K1 Supplement (FD114) and CNA Supplement (FD115) to prepare Schaedler CNA Agar or to prepare Schaedler KV Agar, aseptically add rehydrated contents of 1 vial each of Vitamin K1 Supplement (FD114) and KV Supplement (FD116) respectively to 1000 ml of Schaedler Agar.

Principle And Interpretation
Schaedler Agar was originally formulated by Schaedler et al (11) and further modified by Mata et al (9) with formulation changes (8) for cultivation and enumeration of aerobic and anaerobic microorganisms.

Schaedler Agar supplemented with Vitamin K1 and 5% sheep blood is used for the recovery of fastidious anaerobic bacteria such as Bacteroides. Inclusion of Colistin and Nalidixic acid in the formulation (Schaedler CNA Agar) along with 5% sheep blood is used for the selective isolation of the anaerobic gram-positive cocci (1), Peptococcus and Peptostreptococcus species. Inclusion of Kanamycin and Vancomycin in the formulation (Schaedler KV Agar) along with 5% sheep blood is used for selective isolation of gram-negative anaerobes.

Schaedler Agar serve as an excellent basal media to which blood or other enrichments can be added to enhance the recovery of fastidious anaerobic organisms.

The combination of tryptone, proteose peptone and Soya peptone, Yeast extract and L-cystine provide nitrogenous growth factors, vitamins and other essential growth nutrients. Dextrose serves as energy source. Hemin and sheep blood stimulates the growth of fastidious microorganisms and stimulates growth of other Bacteroides species and gram-positive spore formers (2). Addition of Sodium Polyanethol Sulphonate (SPS) is recommended when using this medium for blood culture (10). It inhibits phagocytosis and neutralizes the antibacterial activity of fresh blood components (3,7). Vitamin K1 enables the cultivation of Bacteroides melaninogenicus (4) and stimulates growth of other Bacteroides species and gram-positive spore formers (2).
**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 4.34% w/v aqueous solution at 25°C. pH : 7.6±0.2

**pH**
7.40-7.80

**Cultural Response**
Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours under anaerobic condition.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bacteroides fragilis</em> ATCC 25285</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
<tr>
<td><em>Clostridium butyricum</em> ATCC 13732</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
<tr>
<td><em>Clostridium perfringens</em> ATCC 12924</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
<tr>
<td><em>Clostridium sporogenes</em> ATCC 11437</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
<tr>
<td><em>Escherichia coli</em> ATCC 25922 (00013*)</td>
<td>&gt;=10³</td>
<td>inhibited</td>
<td>0%</td>
</tr>
<tr>
<td><em>Streptococcus pyogenes</em> ATCC 19615</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
</tbody>
</table>

Key : *Corresponding WDCM numbers.

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

Product performance is best if used within stated expiry period.

Please refer disclaimer Overleaf.
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 (5,6).

Reference


Revision : 02 / 2019

In vitro diagnostic medical device

CE Marking

Storage temperature

Do not use if package is damaged

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Disclaimer :

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