Czapek Dox Agar

Intended use
Recommended for the general cultivation of fungi from water samples.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sucrose</td>
<td>30.000</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>2.000</td>
</tr>
<tr>
<td>Dipotassium phosphate</td>
<td>1.000</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>0.500</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>0.500</td>
</tr>
<tr>
<td>Ferrous sulphate</td>
<td>0.010</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH ( at 25°C)</td>
<td>7.3±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

Directions
Suspend 49.01 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. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation
Fungi, including yeasts and filamentous species or moulds are ubiquitously distributed in nature. Czapek Dox Agar is a semi-synthetic medium used for the cultivation of fungi, containing sodium nitrate as the sole source of nitrogen. This medium is prepared according to the formula developed by Thom and Church (4), which has a defined chemical composition. Czapek Dox Agar is recommended by APHA (1) for isolation of Aspergillus, Penicillium, Paecilomyces and some other fungi with similar physiological requirements.

Sucrose serves as the sole source of carbon while sodium nitrate serves as the sole source of nitrogen. Dipotassium phosphate buffers the medium. Magnesium sulphate, potassium chloride, ferrous sulphate serves as sources of essential ions.

Type of specimen
Water samples.

Specimen Collection and Handling:
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(1) After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions:
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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations:
1. This medium is general purpose medium and may not support the growth of fastidious organisms.

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

Please refer disclaimer Overleaf.
Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Light yellow coloured, clear to slightly opalescent gel with a slight precipitate forms in Petri plates

Reaction
Reaction of 4.9% 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 25-30°C for 48-72 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspergillus brasiliensis</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
<tr>
<td>ATCC 16404 (00053*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
<tr>
<td>Candida albicans ATCC</td>
<td>10231 (00054*)</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
</tr>
<tr>
<td>ATCC 9763</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 20-30°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.

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 (2,3).

References

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