### Carrot Agar

**Intended Use:**
Recommended for sporangial production and study of mating techniques of *phytophthora* sp.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrot, infusion from</td>
<td>200.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.5±0.2</td>
</tr>
</tbody>
</table>

**Directions**

Suspend 19 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. Mix well and pour into sterile Petri plates. Also if desired the medium can be allowed to stand and solidify overnight. It can be reautoclaved again for 10 minutes and poured in 10 ml quantity to prepare thin carrot agar for mating studies.

**Principle And Interpretation**

Carrot Agar is widely used in mycological research. Different combinations of carrot and agar are known to support proliferation and sporulation of plant pathogens (4,5). It can also be used to enhance sporulation of a variety of fungi such as *Alternaria*, *Cercospora*, and *Thielaviopsis*(4). This medium has been recommended for studies determining mating type of *Phytophthora ramorum* isolates by mycelial mixing (1). Different isolates under study can be subcultured onto this medium until mycelial growth is seen but with no chlamydospores. Such isolates can be grown or subcultured to carry out mating studies at room temperature (20-30°C) for 3 days as per standard protocol (1). Carrot provides the natural nutritional contents required by fungii. It has necessary nutrients, minerals and vitamins which limits the growth of organisms, providing an environment only for the existence rather than their growth. Agar acts as a solidifying agent.

**Type of specimen**

Roots of plant.

**Specimen Collection and Handling**

For root samples follow appropriate techniques for handling specimens as per established guidelines (5). 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.
2. Further biochemical test must be carried out for confirmation.

**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.
Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 1.9% w/v aqueous solution at 25°C. pH : 6.5±0.2

pH
6.30-6.70

Cultural Response
Cultural characteristics observed after an incubation at 20-25°C for 48-72 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspergillus brasiliensis</td>
<td>good</td>
</tr>
<tr>
<td>ATCC 16404 (00053#)</td>
<td></td>
</tr>
<tr>
<td>Phytophthora ramorum</td>
<td>good</td>
</tr>
</tbody>
</table>

Key : (*) - Corresponding WDCM numbers. (#) - Formely known as Aspergillus niger

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).

Reference
5. Protocols for Susceptibility testing Protocol 9: Determination of Mating Type of Phytophthora ramorum Isolates by Mycelial Mixing.

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Disclaimer : 
User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.