Orange Serum Medium (without Membrane Filter)  

For detection and enumeration of acid tolerant microorganisms.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>10.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>4.000</td>
</tr>
<tr>
<td>Dipotassium phosphate</td>
<td>2.500</td>
</tr>
<tr>
<td>Orange serum (Solids from 200 ml)</td>
<td>9.000</td>
</tr>
</tbody>
</table>

**Directions**

The test sample should be filtered through a sterile membrane filter having pore size of 0.22µ / 0.45µ. Rehydrate the nutrient pad with 2.0-2.5 ml sterile distilled / purified water. After filtration, remove the membrane filter aseptically using sterile forceps. Place the membrane filter on rehydrated nutrient pad. Incubate the inoculated nutrient. Interpret the results qualitatively by observing the presence or absence of growth and quantitatively by counting the number of colonies on the surface of the membrane filter and calculating CFU/ml.

**Principle And Interpretation**

Field of Application: Beverages and food. DriFilter Membrane Nutrient Pad Medium is ready to use sterile culture media in the form of a 50 mm biological inert absorbent pads impregnated with Orange Serum medium, then dried and sterilized in 55 mm petri plate. They eliminate the need of laborious media preparation and autoclaving procedures. The nutrient pads are to be just rewetted with sterile distilled water and are ready to use. Use of nutrient pads allows larger sample volumes to be tested at a time. Interpretation of results is directly by counting the CFUs and also quantifies the microbial load present in the sample. Orange Serum Medium is recommended by APHA (1) for cultivation of Lactobacilli and other aciduric organisms. Orange Serum Medium was originally developed by Murdock et al (2) and Hays (3) for examining citrus concentrates. Hays and Reister further used this medium for studying the spoilage of orange juice (4). Orange Serum Broth is used to initiate growth of saprophytic, pathogenic fungi in small samples (5). Casein enzymic hydrolysate provides essential nitrogenous nutrients while dextrose serves as the fermentable carbohydrate and energy source. Yeast extract supplies B- complex vitamins, which stimulate growth. Orange serum provides an optimal environment for the recovery of acid tolerant microorganisms from citrus fruit products.

**Quality Control**

**Appearance**
Dry filter membrane pad of 50mm diameter

**Colour**
Pale coloured nutrient pad

**Sterility test**
Passes release criteria

**Cultural response**
Cultural characteristics was observed after an incubation at 35 - 37°C for 40 - 48 hours.
### Organism | Growth | Colour of colony
---|---|---
*Lactobacillus acidophilus* ATCC 4356 | Luxuriant | Colourless
*Lactobacillus fermentum* ATCC 9338 | Luxuriant | Colourless
*Leuconostoc mesenteroides* ATCC 12291 | Luxuriant | Colourless
*Saccharomyces cerevisiae* ATCC 9763 | Luxuriant | Colourless

### Storage and Shelf Life
Store between 10-30°C. Use before expiry date on the label.

### Reference