Mehlmans Maintenance Medium

Mehlmans Maintenance Medium Base is recommended for maintenance of Campylobacter species.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proteose peptone</td>
<td>15.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>7.500</td>
</tr>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>5.000</td>
</tr>
<tr>
<td>Dipotassium phosphate</td>
<td>5.000</td>
</tr>
<tr>
<td>Soluble starch</td>
<td>1.000</td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>1.500</td>
</tr>
<tr>
<td>Neutral red</td>
<td>0.020</td>
</tr>
<tr>
<td>Agar</td>
<td>3.000</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 38.02 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in 8 ml amounts in screw-capped tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 0.2 ml filter sterilized 2.5% sodium sulphite solution to each tube. Mix gently.

**Principle And Interpretation**

Campylobacter is a genus of gram-negative bacteria carried in the intestinal tract of animals and therefore contaminate foods of animal origin. Infection with Campylobacter species is one of the most common causes of human bacterial gastroenteritis. Organisms in the genus Campylobacter were originally classified in the genus Vibrio. Most strains now associated with acute gastroenteritis in humans and having the ability to grow at 42°C were originally described as related Vibrios (1). Mehlmans Maintenance Medium formulated by Mehlman (2) is recommended by APHA (3) for the maintenance of Campylobacter species.

The medium contains nitrogenous nutrients such as proteose peptone, yeast extract and casein enzymic hydrolysate. The medium contains starch, which helps to neutralize any toxic metabolites formed. Energy sources such as dextrose are absent. Neutral red is the pH indicator. Dipotassium phosphate helps in maintaining buffering action of the medium. Mehlmans Maintenance Medium can also be used for storage of stock cultures for upto one month without serial passage at room temperature after cells are grown at 42°C for 24 hours. Transfer weekly or when most of the medium turns yellow.

**Quality Control**

**Appearance**

Light yellow to beige homogeneous free flowing powder

**Gelling**

Semisolid, comparable with 0.3% Agar gel.

**Colour and Clarity of prepared medium**

Orange red coloured clear to slightly opalescent solution in tubes

**Reaction**

Reaction of 3.8% w/v aqueous solution at 25°C. pH : 7.3±0.2

**pH**

7.10-7.50

**Cultural Response**

M917: Cultural characteristics observed after an incubation at 35-37°C for upto 1 week.

**Organism**

Growth
Campylobacter coli ATCC 33559
good-luxuriant

Campylobacter jejuni ATCC 29428

good-luxuriant

Storage and Shelf Life
Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference