Karmali Campylobacter Agar Base

Intended use

Karmali Campylobacter Agar is a blood free medium recommended for selective isolation and cultivation of thermotolerant *Campylobacter* species from food and animal feeds.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone, special</td>
<td>23.000</td>
</tr>
<tr>
<td>Corn starch</td>
<td>1.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Charcoal</td>
<td>4.000</td>
</tr>
<tr>
<td>Agar</td>
<td>12.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 22.5 grams in 490 ml 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. Aseptically add rehydrated contents of 1 vial of Campylobacter Selective Supplement w/ Hemin (Karmali) (FD132) or Campylobacter Selective Supplement w/ Hemin (Karmali), Modified (FD167). Alternatively, add aseptically rehydrated contents of one vial of Campylobacter Selective Supplement, Karmali (FD078) or Campylobacter Selective Supplement (Karmali), Modified (FD178) and 5 ml of Hemin solution (16 mg/5 ml). Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

*Campylobacter* are carried in the intestinal tract of animals and therefore, contaminate foods of animals origin. *Campylobacter jejuni* is recognized as a leading cause of acute bacterial gastroenteritis in humans, and eating foods of animal origin has been associated with many of these illnesses (1). *Campylobacter jejuni* and *Campylobacter coli* are the most common *Campylobacter* species associated with diarrheal illness and are clinically indistinguishable (2). Karmali Campylobacter Agar Base, recommended for the selective isolation and cultivation of Campylobacter species, is a modification of the original formulation of Karmali et al (3). Selectivity of the medium is achieved by the addition of selective supplement. Campylobacter Selective Supplement with Hemin (Karmali) (FD132) or Campylobacter Selective Supplement with Hemin (Karmali), Modified (FD167) has hemin, as part of the supplement whereas, while using Campylobacter Selective Supplement, Karmali (FD078) or Campylobacter Selective Supplement (Karmali), Modified (FD178), hemin has to be added separately. Karmali Campylobacter Agar Base is also recommended by the ISO Committee (4).

Peptone special, cornstarch and hemin, serve as sources of essential nutrients required for bacterial metabolism. Presence of charcoal in the medium helps to neutralize the toxic metabolic products formed in the medium. Sodium pyruvate (present in Supplement) (5) enhances, the aerotolerance of microaerophilic Campylobacter by quenching the toxic forms of oxygen (6). The antibiotics included in the selective supplement are Vancomycin, Amphotericin B, Cycloheximide and Cefoperazone. Vancomycin suppresses gram-positive organisms while Amphotericin B/ Cycloheximide inhibits the fungal flora. Cefoperazone has inhibitory action on gram-negative organisms other than Campylobacter. The inoculated plates are incubated in an atmosphere consisting of approximately 5-6% O₂, 10% CO₂ and 84-85% N₂ at 42°C.

**Type of specimen**

Food and dairy samples

**Specimen Collection and Handling**

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (9,10,11). 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations:
Some strains may show poor growth due to strain variability.

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
Grey to black homogeneous free flowing powder

Gelling
Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium
Black coloured, opalescent gel forms in Petri plates

Reaction
Reaction of 4.5% w/v aqueous solution at 25°C. pH: 7.4±0.2

pH
7.20-7.60

Cultural Response
M1222: Cultural characteristics observed with added Hemin solution and Campylobacter Selective Supplement (Karmali), Modified (FD178)/ Campylobacter Selective Supplement, Karmali (FD078) or Campylobacter Selective Supplement w/Hemin (Karmali), Modified (FD167)/ Campylobacter Selective Supplement w/Hemin(Karmali)(FD132) after an incubation at 42°C for 42-48 hours.

Organism Growth

Cultural Response
Campylobacter coli ATCC 33559 good-luxuriant
Campylobacter jejuni ATCC 29428 good-luxuriant
Escherichia coli ATCC 25922 (00013*) none-poor

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 inorder 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 (7,8).

Reference

Please refer disclaimer Overleaf.

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.