Campylobacter Agar Base

Campylobacter Agar Base is used for the selective isolation of Campylobacter species from faecal, food and environmental specimens.

**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>Liver digest</td>
<td>2.500</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Agar</td>
<td>12.000</td>
</tr>
</tbody>
</table>

Initial pH (at 25°C) 7.4 ± 0.2

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

**Directions**

Suspend 19.75 grams in 500 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 and aseptically add 5-7 %v/v sterile lysed horse blood or 10% sterile defibrinated sheep blood and rehydrated contents of 1 vial of Campylobacter Supplement-I (Blaser-Wang) (FD006) or Campylobacter Supplement-III (Skirrow) (FD008). Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

Campylobacter species are ubiquitous in the environment inhabiting a wide variety of ecological niches (7). Infection with a Campylobacter species is one of the most common causes of human bacterial gastroenteritis (7). Most species are found in animals (cattle, swine) and cause infertility and abortion (1). C. jejuni was originally isolated on a blood-containing media with antibiotics (2). Skirrow described a selective medium for Campylobacter species consisting of Blood Agar Base No. 2 supplemented with horse blood and antibiotics (3). Subsequently, Blaser et al isolated C. jejuni on Brucella Agar supplemented with sheep blood and four antibiotics (4). Later on, a fifth antibiotic, cephalothin was added to improve the selectivity of the medium by inhibition of accompanying faecal bacteria (5). Campylobacter Agar Base is recommended by APHA for selective isolation of Campylobacter species (6).

Campylobacter Agar Base is well supplemented to support luxuriant growth of Campylobacter species. Osmotic equilibrium of the medium is maintained by sodium chloride. Blood serves as an additional source of nutrients including X-factor. The antibiotic supplements namely Blaser-Wang (FD006) and Skirrow (FD008) markedly reduce the growth of normal enteric bacteria while enhancing the growth and recovery of C. jejuni from faecal specimens. Amphotericin B in Blaser-Wang supplement greatly or completely inhibits growth of fungi. C. jejuni colonies appear non-haemolytic, flat and gray with an irregular edge or raised and round with a mucoid appearance. Some strains may appear tan or slightly pink. Swarming may be observed on moist surfaces. Incubation at 35-37°C may show a delayed growth of C. jejuni cultures. Incubating the plates at 42°C can fasten this.

The contaminated food sample (10 to 25 grams) is enriched in Campylobacter Enrichment Broth Base (M899 + FD042). The broth is incubated with agitation under a micro aerobic atmosphere for 16-18 hrs. The enrichment culture is then plated onto the selective media i.e. Campylobacter Agar Base (M994) (6).

**Quality Control**

**Appearance**

Cream to yellow homogeneous free flowing powder

**Gelling**

Firm, comparable with 1.2% Agar gel.

**Colour and Clarity of prepared medium**

Please refer disclaimer Overleaf.
Basal medium: Yellow coloured clear gel. After addition of 5-7% v/v lysed blood: Reddish brown coloured opaque gel forms in Petri plates.

**Reaction**
Reaction of 3.95% w/v aqueous solution at 25°C. pH: 7.4±0.2

**pH**
7.20-7.60

**Cultural Response**
Cultural characteristics observed under reduced oxygen atmosphere after an incubation at 35-37°C for 24-48 hours. (FD006-Campylobacter supplement I, Blaser-Wang/ FD008-Campylobacter supplement III, Skirrow)

**Cultural Response**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth w/ added FD006</th>
<th>Growth w/ added FD008</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Candida albicans ATCC 10231</em></td>
<td>none - poor</td>
<td>moderate</td>
</tr>
<tr>
<td><em>Campylobacter jejuni ATCC 29428</em></td>
<td>good-luxuriant</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Escherichia coli ATCC 25922</em></td>
<td>none - poor</td>
<td>none - poor</td>
</tr>
<tr>
<td><em>Enterococcus faecalis ATCC 29212</em></td>
<td>none - poor</td>
<td>none - poor</td>
</tr>
</tbody>
</table>

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

**Reference**
5. Wilson and Wang, 1979, Information flyer, Campylobacter Laboratory, Veterans Administration Hospital, Denver. Co.

Revision : 1 / 2011

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