Bordet Gengou HiVeg™ Agar Base / with 1.6% Agar

MV175 / MV175A

Bordet Gengou HiVeg Agar Media are recommended for the detection and isolation of *Bordetella pertussis* and *Bordetella parapertussis*. Also used for the "cough plate" method in case of whooping cough.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>MV175 Grms/Litre</th>
<th>MV175A Grms/Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes infusion</td>
<td>125.00</td>
<td>125.00</td>
</tr>
<tr>
<td>HiVeg peptone</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.50</td>
<td>5.50</td>
</tr>
<tr>
<td>Agar</td>
<td>20.00</td>
<td>16.00</td>
</tr>
</tbody>
</table>

Final pH (at 25°C) 6.7 ± 0.2

**Directions**

Suspend 40.0 grams of MV175 or 36.0 grams of MV175A in 1000 ml distilled water containing 10 ml glycerol. 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 15 - 20% sterile, fresh defibrinated blood (sheep, rabbit, human or horse). Mix thoroughly, taking care to avoid incorporation of air bubbles and pour into sterile petri plates.

**Principle and Interpretation**

These media are prepared by replacing peptic digest of animal tissue with HiVeg peptones. Bordet Gengou HiVeg Agar / Agar Base are the modification of originally formulated media for cultivation of *Bordetella* species, by Bordet and Gengou (1). These media are used for diagnosing whooping cough from pharyngeal exudates, nasopharyngeal swabs. Cough plate technique are used for isolation of *Bordetella pertussis* - a causative agent of whooping cough. Potato infusion and HiVeg peptone serve as carbon and nitrogen source while glycerol and blood enrichment provides additional nutrients. Being highly nutritious, these media support luxuriant growth of *Bordetella* and can be used for mass cultivation of *Bordetella pertussis* for vaccine production (2) and for maintaining stock cultures (1). Enrichment of the basal medium with 15% sheep blood aids in the detection of *Bordetella pertussis* by virtue of its haemolytic reaction and with 25% human blood aids in the detection of *Mycobacterium* species from small sputum inocula and in Streptomycin sensitivity testing (3). Incubation should be carried out in a moist chamber (60% humidity) at 37°C for upto 7 days. Medium should not be overdried before use. After incubation *Bordetella pertussis* colonies appear smooth, raised, glistening with a zone of haemolysis. These media can be rendered selective for *Bordetella*, using antibiotics like Penicillin (4), Methicillin (5), Cephalexin (6) amongst which Cephalexin was found to be superior. Cephalexin is used at a concentration of 40 mg/litre. Amphotericin B (10 µg/ml) can be added as an antifungal agent to the medium.

**Product Profile**

<table>
<thead>
<tr>
<th>Vegetable based (Code MV)</th>
<th>Animal based (Code M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV175/MV175A</td>
<td>HiVeg peptone</td>
</tr>
<tr>
<td>M175/M175A</td>
<td>Peptic digest of animal tissue</td>
</tr>
</tbody>
</table>

**Recommended for**

Detection and isolation of *Bordetella* species.

**Reconstitution**

(MV175) : 40.0 g/l
(MV175A) : 36.0 g/l

**Quantity on preparation (500g)**

(MV175) : 12.5 L
(MV175A) : 13.8 L

**pH (25°C)**

6.7 ± 0.2

**Supplement**

Glycerol, Defibrinated blood

**Sterilization**

121°C / 15 minutes.

**Storage**

Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

**Quality Control**

**Appearance of Powder**

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

**Gelling**

Firm, comparable with 2.0% Agar gel of MV175 or 1.6% Agar gel of MV175A.

**Colour and Clarity**

Basal medium yields, light yellow coloured clear to slightly opalescent gel, with addition of 15% v/v sterile defibrinated blood, cherry red coloured, opaque gel forms in petri plates.

**Reaction**

Reaction of 4.0% w/v of MV175 or 3.6% w/v of MV175A aqueous solution is pH 6.7 ± 0.2 at 25°C.

**Cultural Response**

Cultural characteristics observed after an incubation at 35 - 37°C for 3-4 days with added glycerol and 15% v/v sterile defibrinated blood.

**Organisms (ATCC)**

<table>
<thead>
<tr>
<th>Bordetella bronchiolitica (4617)</th>
<th>Growth</th>
<th>Haemolysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>good-luxuriant</td>
<td>gamma</td>
<td></td>
</tr>
</tbody>
</table>

| Bordetella pertussis (8467)      | good-luxuriant |
|----------------------------------|                |

| Bordetella parapertussis (10521)| good-luxuriant |
|----------------------------------|                |

**References**


★ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.