Antibiotic HiVeg Assay Medium No. 5 (Streptomycin HiVeg Assay Agar w/ Yeast Extract)

Antibiotic HiVeg Assay Medium No.5 (Streptomycin HiVeg Assay Agar w/Yeast extract) is used for microbiological assay of Streptomycin using Bacillus subtilis.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiVeg peptone</td>
<td>6.000</td>
</tr>
<tr>
<td>HiVeg extract</td>
<td>1.500</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.9±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 25.50 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Advice: Recommended for the Microbiological assay of Dactinomycin, Dihydrostreptomycin, Kanamycin B, Streptomycin, Framycetin.

**Principle And Interpretation**

Antibiotic HiVeg Assay Medium No. 5 (Streptomycin HiVeg Assay Agar w/Yeast Extract) is prepared by incorporating vegetable peptones in place of animal peptones, making the medium BSE,TSE risks free. It can be used for the same purpose of Antibiotic Assay Medium No.5 (1). Groove and Randall had elucidated the methods to perform these assays (2). This medium is recommended for assaying Streptomycin by cylinder plate using Bacillus subtilis as test organism. It can be used in the assay of commercial preparations of antibiotics as well as for antibiotics in body fluids, feeds etc. This medium can also be used to prepare the base as well as seed layer in the microbiological assay of antibiotics such as Dihydrostreptomycin, Framycetin, Dactinomycin, Streptomycin and Kanamycin B. The pH of 7.9 provides optimum conditions for Bacillus subtilis (3).

HiVeg peptone, HiVeg extract, yeast extract provides necessary growth nutrients for the test organisms like Bacillus subtilis.

To perform the antibiotic assay the Base Agar should be prepared on the same day as the test. For the cylinder method, a base layer of 21 ml is required. Once the base medium has solidified, seed layer inoculated with the standardized test culture can be overlaid. Even distribution of the layer is critical.

*Note: For Antibiotic Assay Methods and Selection of Antibiotic HiVeg Assay Medias, Refer Section Antibiotic HiVeg Assay Media.*

**Quality Control**

**Appearance**
Cream to yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel

**Colour and Clarity of prepared medium**
Medium amber coloured clear to slightly opalescent gel forms in petri plates

**Reaction**
Reaction of 2.55% w/v aqueous solution at 25°C. pH : 7.9±0.2

**pH**
7.70-8.10

**Cultural Response**
MV006: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.
Organism | Inoculum (CFU) | Growth | Recovery | Antibiotics assayed
--- | --- | --- | --- | ---
*Bacillus subtilis ATCC 6633* | 50-100 | good-luxuriant | >70% | Dihydrostreptomycin, Framycetin, Kanamycin B

**Storage and Shelf Life**
Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date on the label.

**Reference**