Potato Dextrose Agar, Granulated

Potato Dextrose Agar, granulated is recommended for the cultivation of yeasts and moulds from pharmaceutical products in accordance with the microbial limit testing by harmonized methodology of USP/EP/BP/JP.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infusion from potatoes</td>
<td>200.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>20.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>pH after sterilization (at 25°C)</td>
<td>5.6±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 39.0 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 or as per validated cycle. Cool to 45-50°C. Mix well and pour into sterile Petri plates or tubes as desired. In specific work, when pH 3.5 is required, acidify the medium with sterile 10% tartaric acid. The amount of acid required for 100 ml. of sterile, cooled medium is approximately 1 ml. Do not heat the medium after addition of the acid.

**Principle And Interpretation**

Yeast and moulds constitute a large and divergent group of microorganisms consisting of several thousands species. Yeast and moulds can cause various degrees of food decomposition. Invasion and growth may occur on virtually any type of food if environmental conditions are not limiting. Some foodborne yeasts and moulds are undesirable because of potential hazards to human and animal health (1).

Potato Dextrose Agar, prepared in accordance with the harmonized methodology of USP/EP/BP/JP (2,3,4,5) is recommended for microbial limit tests in pharmaceutical testing. It is also used for stimulating sporulation, for maintaining stock cultures of certain dermatophytes and for differentiation of typical varieties of dermatophytes on the basis of pigment production (6).

Potato infusion and dextrose promote luxuriant fungal growth. Adjusting the pH of the medium by tartaric acid to 3.5 inhibits the bacterial growth. Heating the medium after acidification should be avoided as it may hydrolyse the agar, which can render the agar unable to solidify.

**Quality Control**

**Appearance**
Cream to yellow coloured granular medium

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

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

**pH**
5.40-5.80

**Growth Promotion Test**
Growth Promotion was carried out in accordance with the harmonized method of USP/EP/BP/JP, and growth was observed at 20-25°C for specified time. Recovery rate is considered as 100% for fungus growth on Sabouraud Dextrose Agar

**Growth Promoting Properties**
Growth of microorganism comparable to that previously obtained with previously tested and approved lot of medium occurs at the specified temperature for not more than the shortest period of time specified inoculating <= 100 cfu

Please refer disclaimer Overleaf.
### Cultural Response
Cultural characteristics observed after incubation at 20-25 °C for 2-5 days. Recovery rate is considered as 100% for fungus growth on Sabouraud Dextrose Agar.

<table>
<thead>
<tr>
<th>Test strain preparation</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Incubation temperature</th>
<th>Incubation period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspergillus brasiliensis ATCC 16404</td>
<td>50 -100</td>
<td>luxuriant</td>
<td>&gt;=50 %</td>
<td>20 -25 °C</td>
<td>5 -7 Day</td>
</tr>
<tr>
<td>Candida albicans ATCC 10231</td>
<td>50 -100</td>
<td>luxuriant</td>
<td>&gt;=70 %</td>
<td>20 -25 °C</td>
<td>2 -3 Day</td>
</tr>
<tr>
<td>Saccharomyces cerevisiae ATCC 9763</td>
<td>50 -100</td>
<td>luxuriant</td>
<td>&gt;=70 %</td>
<td>20 -25 °C</td>
<td>2 -5 Day</td>
</tr>
<tr>
<td>Rhodotorula mucilaginosa DSM 70403</td>
<td></td>
<td>luxuriant</td>
<td></td>
<td>20 -25 °C</td>
<td>3 -5 Day</td>
</tr>
<tr>
<td>Geotrichum candidum DSM 1240</td>
<td></td>
<td>good-luxuriant</td>
<td></td>
<td>25 -30 °C</td>
<td>3 -5 Day</td>
</tr>
<tr>
<td>Penicillium communae ATCC 10248</td>
<td></td>
<td>fair-good</td>
<td></td>
<td>25 -30 °C</td>
<td>3 -5 Day</td>
</tr>
<tr>
<td>Trichophyton ajelloi ATCC 28454</td>
<td></td>
<td>fair-good</td>
<td></td>
<td>25 -30 °C</td>
<td>3 -7 Day</td>
</tr>
</tbody>
</table>

Key: *- Formerly known as Aspergillus niger

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

### Reference