Yeast Mannitol Agar w/ Congo Red

Yeast Mannitol Agar w/ Congo Red is used for cultivation of *Rhizobium* species.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast extract</td>
<td>1.000</td>
</tr>
<tr>
<td>Mannitol</td>
<td>10.000</td>
</tr>
<tr>
<td>Dipotassium phosphate</td>
<td>0.500</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>0.200</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>0.100</td>
</tr>
<tr>
<td>Congo red</td>
<td>0.025</td>
</tr>
<tr>
<td>Agar</td>
<td>20.000</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>6.8±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 31.82 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

*Rhizobium* can fix atmospheric nitrogen only in root nodules of legumes and that too when it is in the bacteroid stage of its life cycle. It possesses the entire complement of genes for nitrogen fixation, which are normally latent and become active only under special conditions. *Rhizobium* makes nitrogen available to the plant and in turn, the bacteria derive nutrients from the tissues of the plants (1). Yeast Mannitol Agar with Congo Red is used for the cultivation of *Rhizobium* species and for studying root nodulation (2).

Yeast extract serves as a good source of readily available amino acids, vitamin B complex and accessory growth factors for Rhizobia. It also poises the oxidation-reduction potential of medium in the range favourable for Rhizobia and serves as hydrogen donor in respiratory process (3). Mannitol is the fermentable sugar alcohol source. Magnesium provides cations essential for the growth of Rhizobia. Congo red inhibits penicillin-susceptible strains. Colonies of Rhizobia stand out as white, translucent, glistening and elevated, with entire margins (2).

**Quality Control**

**Appearance**

Light yellow to pink homogeneous free flowing powder

**Gelling**

Firm, comparable with 2.0% Agar gel.

**Colour and Clarity of prepared medium**

Orange coloured clear to slightly opalescent gel forms in Petri plates.

**Reaction**

Reaction of 3.18% w/v aqueous solution at 25°C. pH : 6.8±0.2

**pH**

6.60-7.00

**Cultural Response**

M721: Cultural characteristics observed after an incubation at 25-30°C for upto 2-5 days.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
<th>Colour of colony</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Rhizobium japonicum ATCC luxuriant</em> 10324</td>
<td></td>
<td>pink</td>
</tr>
</tbody>
</table>

Please refer disclaimer Overleaf.
**Rhizobium meliloti ATCC 9930**

**luxuriant pink**

**Storage and Shelf Life**

Store below 30°C in tightly closed container and prepared medium at 2-8° C. Use before expiry period on the label.

**Reference**


**Disclaimer:**

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