Tomato Juice Agar

Intended Use:
Recommended for cultivation and enumeration of Lactobacilli.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato juice (400 ml)</td>
<td>20.000</td>
</tr>
<tr>
<td>Tryptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Peptonized SM powder</td>
<td>10.000</td>
</tr>
<tr>
<td>Agar</td>
<td>11.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.1±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

Directions
Suspend 51.0 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. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation
Tomato juice was included in media for lactobacilli (7) and was found to be advantageous for its growth, particularly Lactobacillus acidophilus (4). Tomato Juice Agar is a modified formula by Kulp and White (5) recommended for the isolation, cultivation and enumeration of Lactobacilli, especially L. acidophilus from clinical specimens and foodstuffs (6).

Tomato juice provides an acid environment and is also a source of carbon, and other essential nutrients. Peptonized SM powder provides lactose, which acts as the energy source. Tryptone provides nitrogenous, carbonaceous compounds, trace elements and other essential growth nutrients. The low pH of medium inhibits many commensal bacteria and encourages growth of Lactobacilli.

Type of specimen
Food and dairy samples

Specimen Collection and Handling
For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,8,9). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions:
Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations:
1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
2. Further biochemical and serological test must be carried out for complete identification.

Performance and Evaluation
Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control
Appearance
Cream to yellow homogeneous free flowing powder
Gelling
Firm, comparable with 1.1% Agar gel.
Colour and Clarity of prepared medium
Medium amber coloured clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 5.1% w/v aqueous solution at 25°C. pH : 6.1±0.2

pH
5.90-6.30

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactobacillus acidophilus</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td>ATCC 4356 (00998*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lactobacillus casei ATCC</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td>9595</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lactobacillus leichmannii</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td>ATCC 4797</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25922 (00034*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
</tbody>
</table>

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life
Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Use before expiry date on the label.

Product performance is best if used within stated expiry period.

Disposal
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

Disclaimer:
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