DEXTROSE TRYPTONE AGAR (7340)

**Intended Use**
Dextrose Tryptone Agar is used for isolation of mesophilic or thermophilic spoilage microorganisms from food in a laboratory setting. Dextrose Tryptone Agar is not intended for use in the diagnosis of disease or other conditions in humans.

**Product Summary and Explanation**
Dextrose Tryptone Agar evolved from research by Williams, while studying the cultivation and enumeration of thermophilic bacteria caused by “flat-sour” spoilage of canned foods. In the 1930’s, the National Canners Association specified the use of Dextrose Tryptone Agar for isolating “flat sour” organisms from food products. “Flat sour” spoilage of canned foods is caused by *Bacillus coagulans* (*Bacillus thermoacidurans*). Bacterial growth results in a 0.3 – 0.5 drop in pH, while ends of the can remain flat. *B. coagulans* is a soil microorganism, found in canned tomato products and dairy products. Conditions favorable for organism growth can result in spoilage of food products.

Dextrose Tryptone Agar can be used to isolate other food spoilage bacteria including mesophilic, aerobic spore-formers and thermophilic “flat sour” spore-formers such as *B. stearothermophilus*.

**Principles of the Procedure**
Enzymatic Digest of Casein is the carbon, nitrogen, and vitamin sources used for general growth requirements in Dextrose Tryptone Agar. Dextrose is the carbohydrate source. Bromcresol Purple is the pH indicator. Agar is the solidifying agent.

**Formula / Liter**

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Enzymatic Digest of Casein</td>
<td>.......................... 10 g</td>
</tr>
<tr>
<td>Dextrose</td>
<td>.......................... 5 g</td>
</tr>
<tr>
<td>Bromcresol Purple</td>
<td>.......................... 0.04 g</td>
</tr>
<tr>
<td>Agar</td>
<td>.......................... 15 g</td>
</tr>
</tbody>
</table>

Final pH: 6.7 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

**Precaution**

1. For Laboratory Use Only.

**Directions**

1. Suspend 30 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

**Quality Control Specifications**

**Dehydrated Appearance:** Powder is homogeneous, free flowing, and light green-beige.

**Prepared Appearance:** Prepared medium is purple and trace to slightly hazy.

**Expected Cultural Response:** Cultural response on Dextrose Tryptone Agar incubated aerobically at 55 ± 2°C and examined for growth after 18 - 24 hours.

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Approx. Inoculum (CFU)</th>
<th>Expected Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bacillus coagulans</em> ATCC® 7050</td>
<td>10 -300</td>
<td>Growth</td>
</tr>
</tbody>
</table>

The organisms listed are the minimum that should be used for quality control testing.
Test Procedure
Refer to appropriate references for specific procedures.

Results
Acid-producing organisms, such as “flat-sour” thermophiles, form yellow colonies.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Due to varying nutritional requirements, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging
Dextrose Tryptone Agar  Code No.  7340A  500 g
                                 7340B  2 kg
                                 7340C  10 kg

References

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.