SALMONELLA SHIGELLA AGAR (7152)

Intended Use

Salmonella Shigella Agar is used for the isolation of Salmonella spp. and some strains of Shigella spp. in a laboratory setting. Salmonella Shigella Agar is not intended for use in the diagnosis of disease or other conditions in humans.

Product Summary and Explanation

Salmonella Shigella Agar is a modification of the Desoxycholate Citrate Agar described by Leifson. Salmonella Shigella Agar is superior to a number of other media for the isolation of Salmonella spp. and Shigella spp. Salmonella Shigella Agar is recommended for testing specimens and food for the presence of Salmonella spp. and some Shigella spp.

Principles of the Procedure

Beef Extract, Enzymatic Digest of Casein, and Enzymatic Digest of Animal Tissue provide sources of nitrogen, carbon, and vitamins required for organism growth. Lactose is the carbohydrate present in Salmonella Shigella Agar. Bile Salts, Sodium Citrate and Brilliant Green inhibit Gram-positive bacteria, most coliform bacteria, and inhibit swarming Proteus spp., while allowing Salmonella spp. to grow. Sodium Thiosulfate and Ferric Citrate permit detection of hydrogen sulfide by the production of colonies with black centers. Neutral Red is the pH indicator.

Formula / Liter

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef Extract</td>
<td>5 g</td>
</tr>
<tr>
<td>Enzymatic Digest of Casein</td>
<td>2.5 g</td>
</tr>
<tr>
<td>Enzymatic Digest of Animal Tissue</td>
<td>2.5 g</td>
</tr>
<tr>
<td>Lactose</td>
<td>10 g</td>
</tr>
<tr>
<td>Bile Salts</td>
<td>8.5 g</td>
</tr>
<tr>
<td>Sodium Citrate</td>
<td>8.5 g</td>
</tr>
<tr>
<td>Sodium Thiosulfate</td>
<td>8.5 g</td>
</tr>
<tr>
<td>Ferric Citrate</td>
<td>1 g</td>
</tr>
<tr>
<td>Brilliant Green</td>
<td>0.00033 g</td>
</tr>
<tr>
<td>Neutral Red</td>
<td>0.025 g</td>
</tr>
<tr>
<td>Agar</td>
<td>13.5 g</td>
</tr>
</tbody>
</table>

Final pH: 7.0 ± 0.2 at 25°C

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

Precautions

1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 60 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. DO NOT AUTOCLAVE.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free-flowing, and light to medium pinkish-beige.

Prepared Appearance: Prepared medium is reddish-orange to peach and trace to slightly hazy.
Expected Cultural Response: Cultural response incubated aerobically at 35 ± 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><strong>Enterococcus faecalis ATCC® 29212</strong></td>
<td>$10^7$</td>
<td>Complete inhibition</td>
</tr>
<tr>
<td><strong>Escherichia coli ATCC® 25922</strong></td>
<td>$10^7$</td>
<td>Partial to complete inhibition</td>
</tr>
<tr>
<td><strong>Salmonella typhimurium ATCC® 14028</strong></td>
<td>10 - 300</td>
<td>Fair to good</td>
</tr>
<tr>
<td><strong>Shigella flexneri ATCC® 12022</strong></td>
<td>10 - 300</td>
<td>Fair to good</td>
</tr>
</tbody>
</table>

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
- Consult appropriate references for food testing.

Results
Enteric organisms are differentiated by their ability to ferment lactose. *Salmonella* spp. and *Shigella* spp. are non-lactose fermenters and form colorless colonies on Salmonella Shigella Agar. H₂S positive *Salmonella* spp. produce black-center colonies. Some *Shigella* spp. are inhibited on Salmonella Shigella Agar. *E. coli* produces pink to red colonies and may have some bile precipitation.

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.

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.

Limitations of the Procedure
1. *Salmonella Shigella Agar* is highly selective and not recommended as the primary isolation of *Shigella*. Some *Shigella* spp. may be inhibited.
2. A few nonpathogenic organisms may grow on Salmonella Shigella Agar. These organisms can be differentiated by their ability to ferment lactose and other confirmatory tests.

Packaging
- *Salmonella Shigella Agar* Code No. 7152A 500 g
- 7152B 2 kg
- 7152C 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.