SALMONELLA SHIGELLA AGAR (7152)

Intended Use
Salmonella Shigella Agar is used for the isolation of Salmonella spp. and some strains of Shigella spp.

Product Summary and Explanation
Salmonellosis continues to be an important public health problem worldwide. Infection with non-typhi Salmonella often causes a mild, self-limiting illness. Typhoid fever, caused by Salmonella typhi, is characterized by fever, headache, diarrhea, abdominal pain, and can result in fatal respiratory, hepatic, and or neurological damage. This infection can result from the consumption of raw, undercooked, or improperly processed foods contaminated with Salmonella spp.

Shigellosis, caused by Shigella spp., is an intestinal illness characterized by abdominal pain, fever, and watery diarrhea. When associated with outbreaks, shigellosis is usually transmitted through contaminated food and/or water.

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 clinical specimens and food testing 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
Beef Extract ................................................................. 5 g
Enzymatic Digest of Casein .............................................. 2.5 g
Enzymatic Digest of Animal Tissue ............................... 2.5 g
Lactose ......................................................................... 10 g
Bile Salts ....................................................................... 8.5 g
Sodium Citrate .............................................................. 8.5 g
Sodium Thiosulfate ....................................................... 8.5 g
Ferric Citrate ................................................................. 1 g
Brilliant Green ............................................................. 0.00033 g
Neutral Red ................................................................. 0.025 g
Agar ............................................................................. 13.5 g
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. HARMFUL. Harmful if swallowed or inhaled. 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 light to medium reddish-orange to peach, trace to slightly hazy.
Expected Cultural Response: Cultural response at 35°C after 18 - 24 hours incubation.

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Response</th>
<th>Reactions</th>
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</thead>
<tbody>
<tr>
<td>Enterococcus faecalis ATCC® 29212</td>
<td>complete inhibition</td>
<td>---</td>
</tr>
<tr>
<td>Escherichia coli ATCC® 25922</td>
<td>partial to complete inhibition</td>
<td>pink to rose-red colonies with precipitate</td>
</tr>
<tr>
<td>Salmonella typhimurium ATCC® 14028</td>
<td>growth</td>
<td>colorless colonies with black centers</td>
</tr>
<tr>
<td>Shigella flexneri ATCC® 12022</td>
<td>growth</td>
<td>colorless colonies</td>
</tr>
</tbody>
</table>

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

Test Procedure
For isolation of Salmonella spp. and Shigella spp. from clinical specimens, inoculate fecal samples and rectal swabs onto one quadrant of Salmonella Shigella Agar, streak for isolation. Incubate plates at 35°C, and examine after 24 and 48 hours for colonies resembling Salmonella spp. or Shigella spp. 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 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.

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 (410)780-5120 or fax us at (410)780-5470.