NUTRIENT BROTH (7146)

Intended Use
Nutrient Broth is used for the cultivation of a wide variety of microorganisms in a laboratory setting. Nutrient Broth is not intended for use in the diagnosis of disease or other conditions in humans.

Product Summary and Explanation
In the early 1900's, the American Public Health Association (APHA) suggested the formula of Nutrient Agar as a standard culture medium used in water testing. Nutrient Broth is the same formulation as Nutrient Agar, only Agar has been omitted.

Nutrient Broth is used as a pre-enrichment medium when testing certain foods and dairy products for Salmonella spp. In dried or processed foods, salmonellae may be sublethally injured and in low numbers. The presence of other bacteria and food sample components may hinder growth and recovery of Salmonella spp. Pre-enrichment in a nonselective medium such as Nutrient Broth allows for cell damage repair, dilutes toxic or inhibitory substances, and provides a nutritional advantage to Salmonella over other bacteria.

Nutrient Broth is included in many standard methods procedures for testing food, dairy products, and other materials.

Principles of the Procedure
The nitrogen, carbon, vitamins, and amino acids in Nutrient Broth are provided by Enzymatic Digest of Gelatin and Beef Extract.

Formula / Liter
Enzymatic Digest of Gelatin ........................................ 5 g
Beef Extract ............................................................... 3 g
Final pH: 6.8 ± 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. Dissolve 8 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared medium is clear and yellow to gold.

Expected Cultural Response: Cultural response in Nutrient Broth 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>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus subtilis ATCC® 9372</td>
<td>10 - 300</td>
<td>Growth</td>
</tr>
<tr>
<td>Escherichia coli ATCC® 25922</td>
<td>10 - 300</td>
<td>Growth</td>
</tr>
<tr>
<td>Salmonella typhimurium ATCC® 14028</td>
<td>10 - 300</td>
<td>Growth</td>
</tr>
<tr>
<td>Staphylococcus aureus ATCC® 25923</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

Direct:
1. Inoculate broth with specimen.
2. Incubate aerobically at 35°C for 18 – 24 hours or longer if necessary.

Pre-enrichment:
1. Mix 25 g of the sample with 225 mL of Nutrient Broth.
2. Incubate at 35°C for 18 – 24 hours.
3. Transfer a portion to one or more selective enrichment broths.

Note: Refer to appropriate references for specific recommendations when testing certain foods and dairy products for Salmonella spp.

Results
Turbidity indicates good growth.

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 nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

<table>
<thead>
<tr>
<th>Nutrient Broth</th>
<th>Code No.</th>
<th>500 g</th>
<th>2 kg</th>
<th>10 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7146A</td>
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<tr>
<td></td>
<td>7146B</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>7146C</td>
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</tbody>
</table>

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.