**Intended Use**

Agar, Select is a solidifying agent for use in preparing microbiological culture media in a laboratory setting. Agar, Select is not intended for use in the diagnosis of disease or other conditions in humans.

**Product Summary and Explanation**

Agar is a phycocolloid extracted from a group of red-purple algae, usually *Gelidium* spp. Agar was first suggested for microbiological purposes in 1881 by Fannie Hesse.\(^1\,^2\) By the early 1900’s, agar became the gelling agent of choice over gelatin because agar remains firm at growth temperature for many pathogens and Agar is generally resistant to a breakdown by bacterial enzymes. The use of agar in microbiological media significantly contributed to the advance of microbiology, paving the way to study pure cultures.

Agar is a gel at room temperature, remaining firm at temperatures as high as 65°C.\(^3\) Agar melts at approximately 85 - 91°C, a different temperature from solidification at 34 - 36°C. This property is known as hysteresis. Agar is generally resistant to shear forces; however, different agar may have different gel strengths or degrees of stiffness.

Specifications for Agar, Select include good clarity, controlled gelation temperature, controlled melting temperature, good diffusion characteristics, absence of bacterial inhibitors, and the presence of metabolically useful minerals such as calcium and magnesium. Agar, Select is recommended for clinical applications, auxotrophic studies, bacterial and yeast transformation studies, and bacterial molecular genetics applications.\(^4\,^5\).

**Principles of the Procedure**

Agar is typically used in a final concentration of 1 - 2% for solidifying culture media. Smaller quantities (0.05 - 0.5%) are used in media for motility studies (0.5% w/v), growth of anaerobes (0.1%) and microaerophiles.\(^3\)

**Precaution**

1. For Laboratory Use Only.

**Quality Control Specifications**

**Dehydrated Appearance:** Powder is homogeneous, free-flowing and white to light cream.

**Prepared Appearance (1.5% wt/vol):** Prepared medium is very light to medium amber and clear to slightly hazy.

**CAS #:** 9002-18-0

**pH (1.5% Solution at 25°C):** 6.0 - 7.5

**Gel Strength (1.5%, Nikan Method):** 550 - 900 g/cm\(^2\)

**Gel Point (1.5%):** 32 - 38°C

**Expected Cultural Response:** Cultural response on Peptone Agar after incubation aerobically at 35 ± 2°C for 18 - 24 hours incubation.

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Approx. Inoculum CFU</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC® 25922</td>
<td>10 - 300</td>
<td>Good to excellent growth</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> ATCC® 25923</td>
<td>10 - 300</td>
<td>Fair to good growth</td>
</tr>
<tr>
<td><em>Streptococcus pyogenes</em> ATCC® 19615</td>
<td>10 - 300</td>
<td>Poor to fair growth</td>
</tr>
</tbody>
</table>
Test Procedure
Refer to appropriate references for specific procedures using bacteriological grades of agar.

Results
Refer to appropriate references for test results.

Storage
Store sealed bottle containing Agar, Select 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 container. Agar, Select should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to Agar, Select in its intact container when stored as directed.

Packaging
Agar, Select  
<table>
<thead>
<tr>
<th>Code No.</th>
<th>500 g</th>
<th>2 kg</th>
<th>10 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>7558A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7558B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7558C</td>
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</tr>
</tbody>
</table>

References

Technical Information
Contact Acumedica 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.