CHROMagar™ StrepA

**MEDIUM PURPOSE**
Chromogenic medium for the screening of Group A Streptococci in throat samples.
Group A Streptococcus (GAS) *S. pyogenes* cause many different infections (strep throat or pharyngitis, scarlet fever, impetigo) that can be transmitted in a variety of ways. Throat culture is essential to confirm bacterial pharyngitis prior to the application of antibiotic therapy, preventing complications and reducing the risk of transmission, particularly in children and elderly patient.

**COMPOSITION**
The product is composed of a powder base (B) and 2 supplements (S1 + S2).

<table>
<thead>
<tr>
<th>Product</th>
<th>Base (B)</th>
<th>Supplement S1</th>
<th>Supplement S2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total g/L</td>
<td>54.3 g/L</td>
<td>2 mL/L</td>
<td>0.1 g/L</td>
</tr>
<tr>
<td>Composition g/L</td>
<td>Agar 15.0</td>
<td>Growth factors 2.0</td>
<td>Selective mix 0.1</td>
</tr>
<tr>
<td></td>
<td>Peptones and yeast extract 27.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Salts 9.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Growth factors 3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chromogenic and selective mix 0.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Powder Form</th>
<th>Liquid Form</th>
<th>Powder Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>STORAGE</td>
<td>15/30 °C</td>
<td>15/30 °C</td>
<td>2/8 °C</td>
</tr>
</tbody>
</table>

**FINAL MEDIA pH**
7.2 +/- 0.2

**PREPARATION (Calculation for 1 L)**

**Step 1**
Base + S1
- Disperse slowly 54.3 g of powder base in 1 L of purified water.
- Add 2 mL of supplement S1 into slurry.
- Stir until agar is well thickened.
- Autoclave at 121 °C during 15 min.

*Warning: Some green particles may be observed in the agar but these do not affect the performance of the product.*
- Cool at 45/50 °C keeping on stirring.

**Step 2**
S2
- In a transparent vessel, add 100 mg of supplement S2 in 1 mL of purified water.
- Filter to sterilize at 0.45 μm.

**Step 3**
Base + S1 + S2
- Aseptically add 1 mL of S2 preparation into base + S1 slurry, cooled at 45/50 °C while mixing.
- Swirl or stir gently to homogenize.

**Step 4**
Pouring
- Pour into sterile Petri dishes.
- Let it solidify and dry.
Once dried, the appearance of the plate is translucent grey.

**Storage**
- Store in the dark before use.
- Prepared media plates can be kept for one day at room temperature.
- Plates can be stored for up to 1 month under refrigeration (2/8°C) if properly prepared and protected from light and dehydration.
CHROMagar™ StrepA

SPECIMEN COLLECTION AND HANDLING
CHROMagar™ StrepA can be used with the following specimens: throat swabs.

Sampling and transport equipment must be used in accordance with the recommendations of their suppliers for the conservation of Streptococcus strains.

MATERIAL REQUIRED BUT NOT PROVIDED
Standard microbiological laboratory material for culture media preparation, control, streaking, incubation and waste disposal.

INOCULATION
Related samples are inoculated by direct streaking on the plate.
- If the agar plate has been refrigerated, allow to warm to room temperature before inoculation.
- Streak sample onto plate.
- Incubate at 35-37 °C for 18-24 hours in a CO₂ atmosphere.

INTERPRETATION
Qualitative reading and interpretation of the petri dishes.

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Typical colony appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptococcus pyogenes (group A)</td>
<td>orange to red</td>
</tr>
<tr>
<td>Other Streptococcus</td>
<td>steel blue or colourless</td>
</tr>
<tr>
<td>Other Gram (+) bacteria</td>
<td>inhibited</td>
</tr>
<tr>
<td>Yeasts</td>
<td>inhibited</td>
</tr>
<tr>
<td>Gram (-) bacteria</td>
<td>inhibited</td>
</tr>
</tbody>
</table>

Typical colony appearance

![S.pyogenes](image)

The pictures shown are not contractual.

PERFORMANCE
In the following study, 159 throat samples were tested, being positive 120 after 20 h incubation at 35 °C in a CO₂ atmosphere.

<table>
<thead>
<tr>
<th>CHROMagar™ StrepA</th>
<th>Reference Method (blood agar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>96,7 % *</td>
</tr>
<tr>
<td>Specificity</td>
<td>100 % *</td>
</tr>
<tr>
<td></td>
<td>90,8 %</td>
</tr>
</tbody>
</table>

* Data obtained from the study «Validation and implementation of Colorex™ CHROMagar™ Strep A agar on WASP™/WASPLab™ for screening for Streptococcus pyogenes using the ESwab™» Mark Gaskin et Al. ASM 2019

LIMITATIONS AND COMPLEMENTARY TESTS
- Rare strains of Group A Streptococcus may require an additional 24 h of incubation for a satisfactory colony size.
- The final identification must be confirmed by biochemical tests or by mass spectrophotometry (eg MALDI-TOF). They can be done directly from the suspicious colonies observed on the medium.

QUALITY CONTROL
Please perform Quality Control according to the use of the medium and the local QC regulations and norms.

Good preparation of the medium can be tested, isolating the following ATCC strains:

- S. pyogenes ATCC® 19615 → orange to red
- E. faecalis ATCC® 29212 → steel blue
- E. coli ATCC® 25922 → inhibited
- S. aureus ATCC® 25923 → inhibited

WARNINGS AND PRECAUTIONS
- For Research Use Only (RUO). Not for use in diagnostic procedures.
- This laboratory product should be used only by trained personnel (healthcare professional, etc). Wear appropriate protective clothing, gloves and eye/face protection and handle appropriately with procedures and good laboratory practices.
- Use of the medium may be difficult for people who have problems recognising colours.
- Culture media should not be used as manufacturing material or components.
- Do not ingest or inhale the product.
- Do not use the product after the expiry date.
- Do not use the product if it shows any evidence of contamination or any sign of deterioration (compacted powder, color change, ...).
- Do not use the product if the packaging is damaged.
- Any change or modification in the production procedure may affect the results.
- Any change or modification of the required storage temperature may affect the performance of the product.
- Unappropriate storage may affect the shelf life of the product.
- Recap the bottles/vials tightly after each preparation and keep them in a low humidity environment, protected from moisture and light.
- Do not use the culture medium poured into a petri dish after a first use.
- After opening the bottles and with an appropriate conservation, open bottles can be used under the same conditions until each product’s expiry date.
- Reading and interpretation should be performed using isolated colonies.
- Interpretation of the test results should be made taking into consideration colonial and microscopic morphology and if necessary, the results of any other tests performed.
- Laboratory, chemical or biohazardous wastes must be handled and discarded in accordance with all local and national regulations.
• For hazard and precaution recommendations related to some chemical components in this medium, please refer to the pictogram(s) mentioned on the labels. The Safety Data Sheet (SDS) is available on www.chromagar.com
• Any incident or complaint related to the environment must be declared to the manufacturer at the following email address: chromagar@chromagar.com
• Any serious incident occurring in connection with the environment must be declared to the competent authorities and to the manufacturer at the following email address: chromagar@chromagar.com

DISPOSAL OF WASTE
After use, all plates and any other contaminated materials must be sterilized or disposed of by appropriate internal procedures and in accordance with local legislations. Plates can be destroyed by autoclaving at 121 °C for at least 20 minutes.

LITERATURE REFERENCES
Please contact DRG for further information.

IFU/LABEL INDEX

REVISION HISTORY
This is version V3.0 of this document. The version change is related to product composition.