MEDIUM PURPOSE
Chromogenic medium for the isolation and differentiation of Methicillin Resistant *Staphylococcus aureus* (MRSA) including low level MRSA.
The major issue with this pathogen is its resistance to a large panel of antibiotics, among them beta-lactam antibiotics, limiting the therapeutic options for clinicians.

COMPOSITION
The product is composed of a powder base and 1 supplement.

<table>
<thead>
<tr>
<th>Product</th>
<th>Base (B)</th>
<th>Supplement (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total g/L</td>
<td>82.5 g/L</td>
<td></td>
</tr>
<tr>
<td>Composition g/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agar 15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peptones and yeast extract 40.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salts 25.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromogenic mix 2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspect</td>
<td>Powder Form</td>
<td>Freeze dried vial</td>
</tr>
<tr>
<td>STORAGE</td>
<td>15-30 °C</td>
<td>2-8 °C</td>
</tr>
<tr>
<td>FINAL MEDIA pH</td>
<td>6.9 +/- 0.2</td>
<td></td>
</tr>
</tbody>
</table>

PREPARATION (Calculation for 1 L)

**Step 1**
Preparation of the base CHROMagar™ MRSA base (B)
- Disperse slowly 82.5 g of powder base in 1 L of purified water.
- Stir until agar is well thickened.
- Autoclave at 110 °C during 5 min.
- Cool in a water bath to 45-50 °C.
- Swirl or stir gently to homogenize.

**Step 2**
Preparation of the Supplement (S)
- For reconstitution, aseptically rehydrate CHROMagar™ MRSA supplement ref SU620 with 20.0 mL of sterile water.
- Mix slowly.
- Add 1 mL of CHROMagar™ MRSA supplement to the prepared CHROMagar™ MRSA medium.

**Step 3**
Pouring
- Pour into sterile Petri dishes.
- Let it solidify and dry.

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 one month under refrigeration (2/8 °C) if properly prepared and protected from light and dehydration.

Advice 2: If not fully used, rehydrated CHROMagar™ MRSA supplement can be stored one week at 2-8 °C or up to 2 months at -20 °C.
CHROMagar™ MRSA

SPECIMEN COLLECTION AND HANDLING
CHROMagar™ MRSA can be used with the following specimens: urine, nasal, perineal and rectal specimens.

This medium can be also used in environmental and veterinary fields with the following specimens: pets, livestock, poultry, clinical and other materials.

Use of transport devices approved for collection of such specimens is recommended.

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

INOCULATION
Related samples can be processed by direct streaking on the plate, as well as prior appropriate enrichment step.
- If the agar plate has been refrigerated, allow to warm to room temperature before inoculation.
- Streak sample onto plate.
- Incubate in aerobic conditions at 35-37 °C for 18-24 hours.

INTERPRETATION

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Typical colony appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA</td>
<td>→ pink to mauve</td>
</tr>
<tr>
<td>MSSA</td>
<td>→ inhibited</td>
</tr>
<tr>
<td>Other bacteria</td>
<td>→ inhibited, colourless, blue</td>
</tr>
</tbody>
</table>

**Typical colony appearance**

![Typical colony appearance](MRSA)

The pictures shown are not contractual.

PERFORMANCE

In the following study, 831 nasal swabs were tested after 24 h incubation at 37 °C in aerobic conditions.

<table>
<thead>
<tr>
<th>CHROMagar™ MRSA</th>
<th>Reference Method (TSA + Blood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensibility</td>
<td>95.6 % *</td>
</tr>
<tr>
<td>Specificity</td>
<td>100 % *</td>
</tr>
</tbody>
</table>

* Data obtained from the study «Evaluation of a new chromogenic medium for isolation and presumptive identification of Methicillin Resistant S. aureus from human clinical specimens» J. Loulergue et al. European Journal of Clinical Microbiology and Infectious Diseases. 2006

LIMITATIONS AND COMPLEMENTARY TESTS

- Definite identification as MRSA requires, in addition, a final identification as S. aureus.

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:

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Typical colony appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR S. aureus ATCC® 33592</td>
<td>→ mauve</td>
</tr>
<tr>
<td>MS S. aureus ATCC® 25923</td>
<td>→ inhibited</td>
</tr>
<tr>
<td>E. faecalis ATCC® 29212</td>
<td>→ inhibited</td>
</tr>
<tr>
<td>E. coli ATCC® 25922</td>
<td>→ inhibited</td>
</tr>
<tr>
<td>C. albicans ATCC® 10231</td>
<td>→ inhibited</td>
</tr>
</tbody>
</table>

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.
- For a good microbial detection, collection and transport of specimen should be well handled and adapted to the particular specimen according to good laboratory practices.
- 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.
- Do not use the product if the packaging is damaged.
- Any change or modification in the 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.
- Reading and interpretation should be performed using isolated colonies.
- Some precipitates may be observed in the agar but these do not affect the performance of the product.
- 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.
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 refer to our website page «Publications» for scientific publications about this particular product.
Web link: http://www.chromagar.com/publication.php

IFU/LABEL INDEX

REF  Catalogue reference

Consult instructions for use

 Quantity of powder sufficient for X liters of media

 Expiry date

 Required storage temperature

 Store away from humidity

 Protect from light

 Manufacturer
# CHROMagar™ MRSA

**Product code MR533-10kg**

<table>
<thead>
<tr>
<th>References</th>
<th>Ordering References</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MR533-10Kg + MR513-125(B) + MR513-125(C) + SU625-BA</td>
</tr>
</tbody>
</table>

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The major issue with this pathogen is its resistance to a large panel of antibiotics, among them beta-lactam antibiotics, limiting the therapeutic options for clinicians.

## COMPOSITION

The product is composed of a powder base (A) and 3 supplement (B + C + SU).

<table>
<thead>
<tr>
<th>Product</th>
<th>Base (A)</th>
<th>Liquid B</th>
<th>Mix C</th>
<th>Supplement SU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total g/L</td>
<td>80.4 g/L</td>
<td>2 g/L</td>
<td>0.25 g/L</td>
<td>2.6 mg/L</td>
</tr>
</tbody>
</table>

### Composition g/L

- **Agar 15.0**
- **Peptones and yeast extract 40.0**
- **Salts 25.0**
- **Chromogenic mix 0.4**

### Aspect

<table>
<thead>
<tr>
<th></th>
<th>Powder Form</th>
<th>Liquid Form</th>
<th>Powder Form</th>
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<tbody>
<tr>
<td><strong>STORAGE</strong></td>
<td>15-30 °C</td>
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### FINAL MEDIA pH

6.9 +/- 0.2

## PREPARATION (Calculation for 1 L)

### Step 1

Preparation of CHROMagar™ MRSA base (A) + Liquid B

- Disperse slowly 80.4 g of CHROMagar™ MRSA Base A powder in 1 L of purified water.
- Add 2 g of CHROMagar™ MRSA Liquid B to it, into slurry.
- Stir until agar is well thickened.
- Autoclave (Base A + Liquid B) at 121 °C during 15 min.
- Cool to 45/50 °C keeping stirring.

### Step 2

Preparation of CHROMagar™ MRSA Mix C

- In a transparent vessel, add 250 mg of Mix C powder to 10 mL of purified water.
- Place under agitation with a magnetic stirring until Mix C is solubilized. (for 10 mL --> 30 min of stirring)
- Filter sterilise at 0.45 µm.
- And aseptically add into slurry (Base A + Liquid B) cooled to 45/50 °C while mixing.

### Step 3

Preparation of CHROMagar™ MRSA Supplement

- For reconstitution make a stock solution of CHROMagar™ MRSA supplement ref SU625-BA at 2 mg/mL (add 20 mg of SU625-BA powder to 10 mL of purified water). Homogenize and filter sterilise at 0.45 µm.
- Add 1.3 mL into melted (Base A + Liquid B + Mix C) cooled to 45/50 °C while mixing.

### Step 4

Pouring

- Swirl or stir gently to homogenize. Pour into sterile Petri dishes.
- Let it solidify and dry.

### Storage

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<tr>
<td></td>
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Quantity of powder sufficient for X liters of media
Expiry date
Required storage temperature
Store away from humidity
Protect from light
Manufacturer

Need some Technical Documents?
Available for download on www.CHROMagar.com
• Certificate of Analysis (CoA) --> One per Lot
• Material Safety Data Sheet (MSDS)

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