CHROMagar™ MRSA

Instructions For Use

For Research Use Only (RUO)

CHROMagar™
The Chromogenic Media Pioneer

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IVD CE

CHROMagar™ MRSA

Instructions For Use
For Research Use Only (RUO).
Not for use in diagnostic procedures.

Chromogenic medium for the isolation and differentiation of Methicillin Resistant *Staphylococcus aureus* (MRSA)

ENGLISH

Instructions For Use

REFERENCES

Pack Size			Ordering References		Base		Supplement
5000 mL	250 Tests of 20 mL	=	MR502	=	MR502 Weight: 412.5 g	+	SU620

INTENDED USE

CHROMagar™ MRSA is a selective and differential chromogenic medium for the qualitative direct detection of colonization by methicillin resistant *Staphylococcus aureus* (MRSA) to aid in the prevention and control of MRSA in healthcare settings. The test is performed on anterior nares or perineal swab specimens from patients and healthcare workers to screen for MRSA colonization. Results can be interpreted after 18-24 h of aerobic incubation at 35-37 °C.

CHROMagar™ MRSA is not intended to diagnose, guide, nor monitor therapy for MRSA infections, nor provide results of susceptibility to methicillin. A lack of growth or the absence of pink colonies on CHROMagar™ MRSA does not preclude the presence of MRSA. Further identification, susceptibility testing, and epidemiological typing is needed on suspect colonies.

CHROMagar™ MRSA can also be used in conjunction with other laboratory tests and clinical data available to aid in the identification and in the diagnosis of MRSA infections in skin, soft tissue, wounds and positive blood cultures. Concomitant cultures are necessary to recover organisms for further microbiological susceptibility testing or epidemiological typing.

COMPOSITION

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

Product =	Base	+	Supplement
Total g/L	82.5 g/L		
Composition g/L	Agar 15.0 Peptones and yeast extract 40.0 Salts 25.0 Chromogenic mix 2.5		
Aspect	Powder Form		Freeze-dried vial
STORAGE	**15-30 °C**		**2-8 °C**
FINAL MEDIA pH	6.9 +/- 0.2		

Need some Technical Documents?

Available for download on www.CHROMagar.com

- Certificate of Analysis (CoA) --> One per Lot
- Material Safety Data Sheet (MSDS)

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.

DO NOT AUTOCLAVE AT 121 °C. DO NOT HEAT LONGER THAN 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: nasal and perineal 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

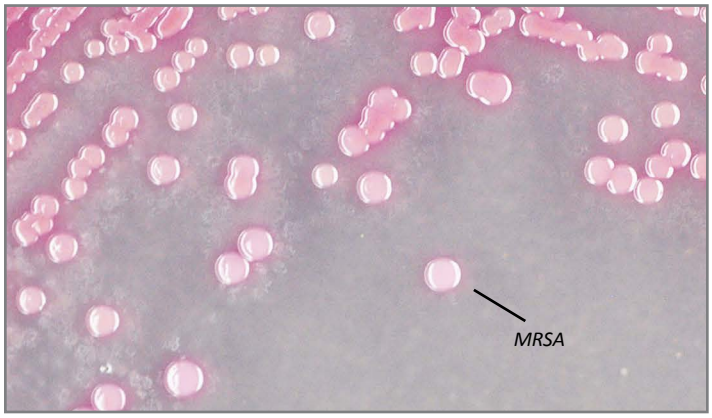
Related samples can be processed by direct streaking on the plate, as well as prior appropriate enrichment step.

- 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

Microorganism	Typical colony appearance
MRSA	→ pink to mauve
MSSA	→ inhibited
Other bacteria	→ inhibited, colourless, blue

Typical colony appearance



The pictures shown are not contractual.

PERFORMANCE

	Analytical data *	Clinical data**	
		CHROMagar™ MRSA	Reference medium (TSA + 5 % Horse Blood)
Sensitivity	95.4 %	95.6 %	83.2 %
Specificity	100 %	100 %	-

* Data obtained after 24 h incubation at 35 °C in aerobic conditions in the study «Performance of CHROMagar MRSA Medium for Detection of Methicillin-Resistant *Staphylococcus aureus*». Diederen *et al*. 2005. *J. Clin. Microbiol.*

** Data obtained after 24 h incubation at 37 °C in aerobic conditions with 831 nasal swabs in the study «Evaluation of a new chromogenic medium for isolation and presumptive identification of Methicillin Resistant *S. aureus* from human clinical specimens». Loulergue *et al.* 2006. *Eur. J. Clin. Microbiol. Infect. Dis.*

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:

Microorganism	Typical colony appearance
MR *S. aureus* ATCC® 33592	→ mauve
MS *S. aureus* ATCC® 25923	→ inhibited
E. faecalis ATCC® 29212	→ inhibited
E. coli ATCC® 25922	→ inhibited
C. albicans ATCC® 10231	→ 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.
- 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 precipitate 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: www.chromagar.com/product/chromagar-mrsa/

IFU/LABEL INDEX

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

NT-EXT-094 USA V3.1 / 07-May-2024

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REFERENCES

Pack Size		Ordering References		Base (A)		Liquid B		Mix C		Supplement SU
10 KG (6200 Tests of 20 mL)	=	MR533-10KG	=	MR533-10Kg	+	MR513-125(B)	+	MR513-125(C)	+	SU625-BA

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 (A) and 3 supplement (B + C + SU).

Product =	Base (A) +	Liquid B +	Mix C +	Supplement SU
Total g/L	80.4 g/L	2 g/L	0.25 g/L	2.6 mg/L
Composition g/L	Agar 15.0 Peptones and yeast extract 40.0 Salts 25.0 Chromogenic mix 0.4	Growth factors 2.0	Selective and chromogenic mix	Selective mix
Aspect	Powder Form	Liquid Form	Powder Form	Powder Form
STORAGE	**15-30 °C**	**15-30 °C**	**2-8 °C**	**2-8 °C**
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.

Final Media	HELPING CALCULATION
5 L	Base 402 g / Liquid B : 10 g
10 L	Base 804 g / Liquid B : 20 g
25L	Base 2010 g / Liquid B : 50 g

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 at 0.45 µm.
- And aseptically add into slurry (Base A + Liquid B) cooled to 45/50 °C while mixing.

Final Media	HELPING CALCULATION
5 L	Mix C : 1.25 g in 50 mL
10 L	Mix C : 2.5 g in 100 mL
25L	Mix C : 6.25 g in 250 mL

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 at 0.45 µm.
- Add 1.3 mL into melted (Base A + Liquid B + Mix C) cooled to 45/50 °C.

Final Media	HELPING CALCULATION
5 L	Add 6.5 mL into melted base
10 L	Add 13 mL into melted base
25L	Add 32.5 mL into melted base

Step 4
Pouring

- Swirl or stir gently to homogenize. 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 2 weeks under refrigeration (2/8 °C) if properly prepared and protected from light and dehydration.

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

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INOCULATION

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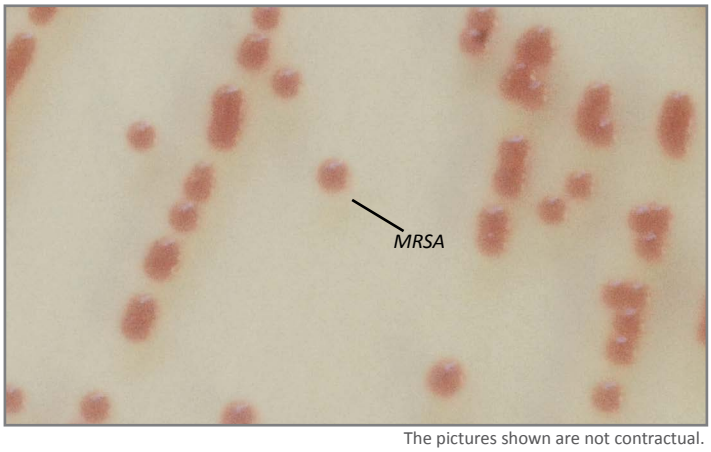

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PERFORMANCE

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

	CHROMagar™ MRSA	Reference Method (TSA + Blood)
Sensibility	95.6 % *	83.2 % *
Specificity	100 % *	--

* 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

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IFU/LABEL INDEX

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

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- Material Safety Data Sheet (MSDS)

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