

Instructions for Use

HardyCHROM™ MRSA, Contact Plate

Cat. no. P14	HardyCHROM™ MRSA, Contact Plate, 15ml	10 plates/bag
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INTENDED USE

HardyCHROM™ MRSA, Contact Plate is a chromogenic medium recommended for use in the cultivation of methicillin resistant *Staphylococcus aureus* (MRSA) from environmental surfaces to aid in the prevention and control of MRSA infections in health care settings. Each contact plate has a specified grid molded into the bottom of the plate for enumeration of microbial colonies growing on a variety of surfaces. HardyCHROM™ MRSA, Contact Plate is not intended to diagnose MRSA infection nor to guide or monitor therapy.

SUMMARY AND PRINCIPLES

Methicillin-Resistant *Staphylococcus aureus* (MRSA) continues to be a major cause of nosocomial and life threatening infections. The prevalence of MRSA within hospital environments and community acquired (CA-MRSA) continue to increase. Infections with MRSA have been associated with high morbidity and mortality. Screening programs have been implemented in most health care settings to identify potential reservoirs so that necessary procedures can be implemented to prevent the spread of MRSA. HardyCHROM™ MRSA medium in a contact plate can assist epidemiologists and infection control personnel to monitor MRSA on environmental surfaces.

Various selective and differential media have been developed as an aid to the detection and identification of MRSA isolates and some media require incubation for up to 48 hours. HardyCHROM™ MRSA, Contact Plate can detect positive results in as little as 16 to 24 hours.

MRSA strains grown in the presence of chromogenic substrates produce deep pink to magenta colonies. The addition of specific inhibitory agents allow for the growth of MRSA strains while preventing growth of MSSA strains. Additional selective agents have been added to increase the sensitivity and specificity of the medium by inhibiting gram-negative organisms, yeast, and some gram-positive cocci. Bacteria other than MRSA may utilize additional chromogenic substrates present in the medium and produce blue or green colonies.

FORMULA

Ingredients per liter of deionized water:*

Sodium Chloride	30.0gm
Peptone	20.0gm
Chromogenic Mixture	2.0gm
Inhibitory and Selective Agents	2.5gm
Agar	15.0gm

Final pH 7.0 +/- 0.2 at 25 degrees C

* Adjusted and/or supplemented as required to meet performance criteria.

STORAGE AND SHELF LIFE

Storage: Upon receipt store at 2-8 degrees C. away from direct light. Media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), contamination, or if the expiration date has passed. Product is light and temperature sensitive; protect from light, excessive heat, moisture, and freezing.

The expiration date applies to the product in its intact packaging when stored as directed.

Refer to the document "[Storage](#)" for more information.

PRECAUTIONS

This product is for laboratory use only and is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions". Refer to the document "[Guidelines for Isolation Precautions](#)" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M-29: *Protection of Laboratory Workers from Occupationally Acquired Infections: Approved Guideline*.

Sterilize all biohazard waste before disposal.

Refer to the document "[Precautions When Using Media](#)" for more information.

PROCEDURE

Method of Use: Hold the plate with thumb and second finger and use index finger to press plate bottom firmly against the selected test surface. The same amount of pressure should be applied for every sample. Do not twist or move the plate laterally. Lateral movement spreads contaminants over the agar surface, thus making resolution of colonies difficult. A rolling motion may be used for slightly curved surfaces.⁽⁴⁾

Section or grid areas (walls, floors, etc.) to be assayed. Samples can then be taken from specific points within the grid.

Incubate the plates aerobically at 35 degrees C. for 16 to 24 hours. Observe plates for characteristic colonial morphology and color. If negative for MRSA, reincubate for an additional 24 hours and read again. If colonies appear at 48 hours and not at 24 hours, coagulase testing (Cat. no. Z202 or ST50) should be performed before reporting as MRSA.

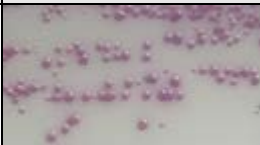

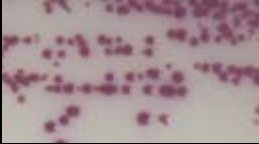

Using adequate light and magnification, count the number of pink colonies within the squares of the grid area. Take care not to count a square more than once. Using a Bactronic or Quebec colony counter, count colonies and record as the number of colonies per contact plate or number of colonies per square centimeter.⁽⁸⁾

Data should be collected and recorded according to a designed monitoring system that statistically provides for the accurate acquisition of data for multiple sampling over time.

INTERPRETATION OF RESULTS

Plate should have fewer than 200 colonies if accurate colony counts are desired.⁽⁸⁾ Similar appearing colonies growing in close proximity, but not touching, should be counted as individual colonies.

MRSA will appear as deep pink to magenta colored colonies. Most other organisms will be inhibited on HardyCHROM™ MRSA, Contact Plate for up to 48 hours of incubation. Colonies that are colorless, blue or green should not be considered as MRSA.

Organism	Description	Photo	Color
Methicillin-resistant <i>Staphylococcus aureus</i> (ATCC® 43300) 24 hour incubation	deep pink to magenta		
Methicillin-resistant <i>Staphylococcus aureus</i> (ATCC® 43300) 48 hour incubation	deep pink to magenta		

LIMITATIONS

Accurate counting can be made difficult by molds or spreading colonies.

Results can be uninterpretable or misleading unless a statistical method for monitoring is designed.

Sampling challenges may occur as a result of irregular, porous, rough or textured media surface.

Microbial contamination on a surface cannot be completely characterized by a single assay.

Contact Plate Media is not recommended for sampling crevices or irregular surfaces.

Ideally, Contact Plate Media should be used on previously cleaned and sanitized surfaces.

It is recommended that biochemical and/or serological tests be performed on colonies from pure culture for complete identification.

Color-blind individuals may encounter difficulty in distinguishing the color differences on HardyCHROM™ MRSA, Contact Plate.

HardyCHROM™ MRSA, Contact Plate is intended for use only on environmental surfaces and not clinical specimens.

Refer to the document "[Limitations of Procedures and Warranty](#)" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as loops, other culture media, Coagulase Cryo™ (Cat. no. Z202), StaphTEX™ (Cat. no. ST50), swabs, applicator sticks, incinerators, and incubators, etc, as well as serological and biochemical reagents, are not provided.

QUALITY CONTROL

The following organisms are routinely used for testing at Hardy Diagnostics:

Test Organisms	Inoculation Method*	Incubation			Results
		Time	Temperature	Atmosphere	
<i>Staphylococcus aureus</i> ATCC® 43300**	A	24hr	35°C	Aerobic	Growth; deep pink to magenta colonies
<i>Staphylococcus aureus</i> ATCC® 29213**	B	24-48hr	35°C	Aerobic	Inhibited
<i>Staphylococcus epidermidis</i> ATCC® 12228	B	24-48hr	35°C	Aerobic	Inhibited
<i>Escherichia coli</i> ATCC® 25922	B	24-48hr	35°C	Aerobic	Inhibited
<i>Enterococcus faecalis</i> ATCC® 29212	B	24-48hr	35°C	Aerobic	Inhibited

* Refer to the document "[Inoculation Procedures for Media QC](#)" on the Hardy Diagnostics [Technical Document](#) website for more information.

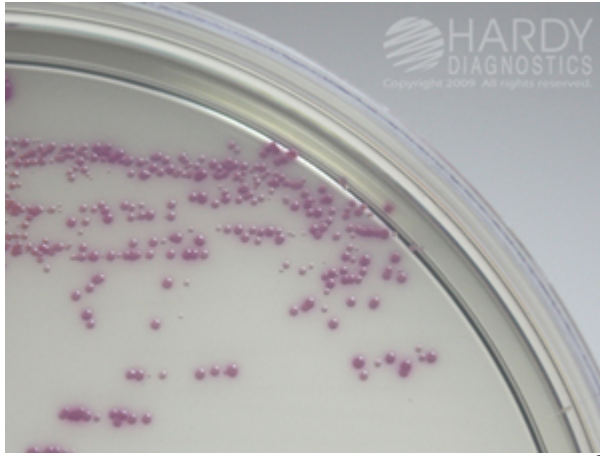
** Recommended QC strains for User Quality Control according to the CLSI document M22 when applicable.

USER QUALITY CONTROL

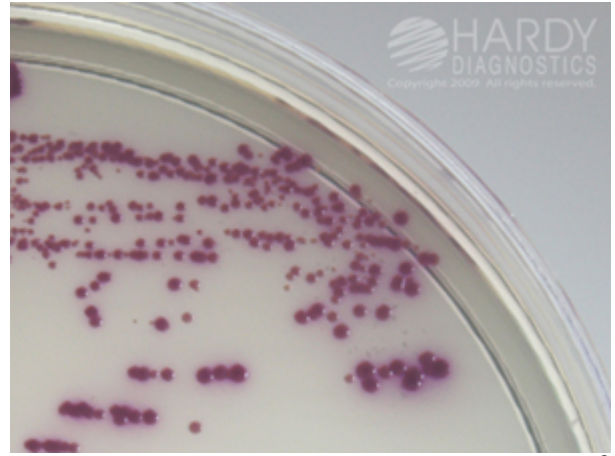
End users of commercially prepared culture media should perform QC testing in accordance with applicable government regulatory agencies, and in compliance with accreditation requirements. Hardy Diagnostics recommends end users check for signs of contamination and deterioration and, if dictated by laboratory quality control procedures or regulation, perform quality control testing to demonstrate growth or a positive reaction and to demonstrate inhibition or a negative reaction, if applicable. Hardy Diagnostics quality control testing is documented on the certificates of analysis (CofA) available from Hardy Diagnostics [Certificates of Analysis](#) website. In addition, refer to the following document "[Finished Product Quality Control Procedures](#)," for more information on QC or see reference(s) for more specific information.

PHYSICAL APPEARANCE

HardyCHROM™ MRSA should appear translucent, and light amber in color.



Methicillin-resistant *Staphylococcus aureus* (ATCC® 43300) growing on HardyCHROM™ MRSA showing deep pink colonies. Incubated aerobically for 24 hours at 35°C.



Methicillin-resistant *Staphylococcus aureus* (ATCC® 43300) growing on HardyCHROM™ MRSA showing magenta colonies. Incubated aerobically for 48 hours at 35°C.

REFERENCES

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6. American Public Health Association. *Standard Methods for the Examination of Dairy Products*. APHA, Washington, D.C.
7. APHA Technical Committee on Microbiological Methods for Foods. *Compendium of Methods for the Microbiological Examination of Foods*. APHA, Washington, D.C.
8. U.S. Food and Drug Administration. *Bacteriological Analytical Manual*. AOAC, Arlington, VA.
www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM/default.htm
ATCC is a registered trademark of the American Type Culture Collection.

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