

---

**Lab Dept:** Microbiology/Virology

**Test Name:** MRSA DETECTION BY PCR

---

***General Information***

**Lab Order Codes:** MRSP (Routine testing), SMRSP (Infection Prevention surveillance MRSA testing)

**Synonyms:** MRSA PCR screen, Methicillin-resistant Staphylococcus aureus PCR screen; Surveillance MRSA PCR

**CPT Codes:** 87641 - Staphylococcus aureus, methicillin resistant, amplified probe technique

**Test Includes:** Detection of MRSA from nasal swabs in patients at risk for nasal colonization by PCR (polymerase chain reaction).

---

***Logistics***

**Lab Testing Sections:** Molecular Diagnostics, Mpls campus

**Phone Number:** 612-813-7013

**Test Availability:** Specimens accepted daily, 24 hours

**Turnaround Time:** 24-48 hours

**Special Instructions:** Requisition must state **site** of specimen and **date/time of collection**.

---

***Specimen***

**Specimen Type:** Anterior nares

**Container:** Swab transport medium

**Volume:** One swab

**Collection:** **Anterior Nares**

1. Insert swab, premoistened with sterile saline, approximately 1-2 cm into the nostril. (1/2 inch from edge of nares)
2. Rotate the swab against the nasal mucosa approximately 5 times.
3. Insert the same swab into the second nostril and repeat sampling as in steps 1 and 2.
4. Place in swab transport medium.
5. Label container and transport to the laboratory.

<b>Transport/Storage:</b>	Transport to the Microbiology Laboratory at room temperature. If a delay is anticipated, refrigerate specimen at 4° C. Specimens are stable at room temperature for 2 days and 5 days at refrigerated temperature (2 - 8° C).
<b>Sample Rejection:</b>	NP wire swab (green); unrefrigerated specimen(s) with a transit time exceeding 2 days after collection; improper source; improperly labeled specimen; external contamination. If an unacceptable specimen is received, the patient's caregiver will be notified and another specimen will be requested before the specimen is discarded.

---

### ***Interpretive***

<b>Reference Range:</b>	Negative: No MRSA DNA detected, MRSA nasal colonization unlikely  Unresolved results due to PCR inhibition are inconclusive. Consider repeat collection if clinically indicated.
<b>Significant Finding:</b>	Positive: MRSA DNA detected, MRSA nasal colonization likely Newly identified patients will be called to the patient's caregiver.
<b>Limitations:</b>	<ul style="list-style-type: none"> <li>● Blood, excessive nasal secretions/mucus, decongestants and substances used to relieve nasal dryness or irritation may inhibit PCR and give unresolved results.</li> <li>● Negative results may occur from improper specimen collection, handling and storage or because the number of organisms in the specimen is below the analytical sensitivity of the test.</li> <li>● Results should be used as an adjunct to nosocomial infection control efforts to identify MRSA nasal carriers. This test is not intended to identify patients with staphylococcal infection.</li> <li>● A positive test result does not necessarily indicate the presence of viable organisms.</li> <li>● Mutations or polymorphisms in primer or probe binding sites may affect new or unknown MRSA variants resulting in a false negative result.</li> </ul>
<b>Methodology:</b>	Polymerase Chain Reaction (PCR)
<b>References:</b>	<p>Baron, EJ and RB Thompson Jr, Specimen Collection, Transport, and Processing: Bacteriology In J. Versalovic, et al, (ed) Manual of Clinical Microbiology, 11<sup>th</sup> edition, American Society for Microbiology, Washington DC, pg 237</p> <p>Miller, J. Michael (1999), A Guide To Specimen Management in Clinical Microbiology, American Society for Microbiology, Washington, D.C.</p> <p>BD Max™ MRSA XT Assay (2014/01), Circular PO168(01), GeneOhm Sciences Canada, Inc, 2555 boul. Parc-Technologique, Quebec, Qc, Canada, G1P 4s4.</p>

**Updates:**

9/1/2010: Transport time extended from 2 hours to 1 day.

11/30/2011: Updated availability from M-S to Daily. Changed sample storage, previously listed as 2-5 degrees C. BD reference for ACP updated. Transport extended from 1 day to 2 days @ room temp.

2/20/12: Changed from Critical value to Significant finding.

6/7/15: Changed significant finding Alert Value; added Surveillance MrSA PCR to synonyms; updated references.