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**Lab Dept:** Microbiology/Virology

**Test Name:** RSV & INFLUENZA A, B PCR

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***General Information***

**Lab Order Codes:** RIP

**Synonyms:** Influenza A, B and RSV PCR; Respiratory viruses, RSV and Influenza A, B PCR; PCR for RSV and Influenza A, B

**CPT Codes:** 87631 – Respiratory virus, multiplex amplified probe, 3-5 targets

**Test Includes:** Rapid detection of influenza virus types A and B and RSV in upper respiratory tract infections by RT-PCR (Reverse Transcription Polymerase Chain Reaction).

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***Logistics***

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

**Phone Numbers:** MIN Lab: 612-813-7103

STP Lab: 612-813-7103

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

**Turnaround Time:** 1 day

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

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***Specimen***

**Specimen Type:** Nasopharyngeal washings; nasopharyngeal (NP) aspirates; 2 flexible-shaft dacron NP swabs.  
**Calcium alginate swabs are inhibitory to PCR.**

**Container:** Sterile screw cap container; swab transport media; viral transport media

**Volume:** 1 – 2 mL nasal washings, nasal aspirates; 2 NP swabs

**Collection:** **Nasopharyngeal Washings:**  
1. Tilt patient's head back at a 70° angle.  
2. Insert rubber bulb syringe containing 1 - 2 mL of sterile saline until it occludes the nostril.  
3. Collect specimen (Minimum: 1 mL) with one complete squeeze and release bulb.

4. Repeat in other nostril.
5. Dispense the specimen into a sterile screw cap container and transport to the lab immediately.

If specimen cannot be transported to the lab immediately, place 1 - 2 mL of specimen in viral transport media (VTM) and refrigerate.

**Nasal Aspiratation:**

1. Prepare suction set up on low to medium suction.
2. Wash hands and put on protective barriers (e.g., gloves, gown, mask).
3. Place child supine and obtain assistant to hold child during procedure.
4. Attach luki tube to suction tubing and #6 French suction catheter.
5. Insert catheter into nostril and pharynx without applying suction.
6. Apply suction as catheter is withdrawn. If necessary, suction 0.5 – 1 mL of normal saline through catheter in order to clear the catheter and increase the amount of specimen in the luki tube.
7. Carefully transfer specimen to a screw cap container.

If specimen cannot be transported to the laboratory immediately, place 1 - 2 mL of specimen in viral transport media (VTM) and refrigerate.

**NP swabs (2):**

1. Carefully insert a flexible-shaft dacron swab containing a dry tip into the nasopharyngeal cavity until resistance is encountered.
2. Rotate the swab slowly on the nasopharyngeal membrane for 5 – 10 seconds to absorb secretions.
3. Remove the swab, place in swab transport medium and send to the lab immediately.

If specimen cannot be transported to the laboratory immediately, cut swabs into viral transport media (VTM) and refrigerate.

<b>Special Processing:</b>	Lab Staff: Place specimen into viral transport media (VTM) upon arrival in laboratory.
<b>Transport/Storage:</b>	Transport to the Laboratory immediately to maintain specimen integrity. Specimens can be stored at refrigerated temperature (2 – 8° C) for up to 72 hours before processing.
<b>Sample Rejection:</b>	Specimen with a transit time exceeding 1 hour after collection without refrigeration; calcium alginate, wooden or dry swabs; improperly labeled specimen; insufficient volume; leaking or non-sterile containers. If an unacceptable specimen is received, the patient's caregiver will be notified and another specimen will be requested before the specimen is discarded.

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***Interpretive***

**Reference Range:** Negative

Unresolved results due to PCR inhibition are inconclusive. Consider repeat collection if clinically indicated.

**Limitations:**

- Blood, excessive nasal secretions/mucus, decongestants and substances used to relieve nasal dryness or irritation may inhibit PCR and give unresolved results.
- There is a risk of false negative results if specimens are improperly collected, transported or stored.
- Low levels of virus shedding may yield a false negative result.

**Methodology:**

Reverse Transcription Polymerase Chain Reaction (RT - PCR)

**References:**

Simplexa™ Flu A/B & RSV Direct, Focus Diagnostics, Cypress CA 90630

CLSI (2005) Collection, Transport, Preparation and Storage of Specimens for Molecular Methods; CLSI document MM13-A, Wayne PA

Miller, J Michael (1999) A Guide To Specimen Management in Clinical Microbiology, American Society for Microbiology, Washington DC, pg 100

Baron, EJ and RB Thompson Jr (2011) Specimen Collection, Transport, and Processing: Bacteriology In J. Versalovic, et al, (ed.), Manual of Clinical Microbiology, 11th edition, American Society for Microbiology, Washington, D.C., pg 237

**Updates:**

12/22/2016: Removed BAL as an acceptable specimen type; discontinued influenza A subtyping.