



Missouri State Public Health Laboratory

Measles Virus Information

Updated 3/21/2025

Instructions for the collection and submission of measles specimens for Real-Time RT-PCR testing at the Missouri State Public Health Laboratory:

The Missouri State Public Health Laboratory (MSPHL) provides laboratory testing services for individuals suspected of infection with Measles Virus. This testing has the ability to differentiate between measles wild-type viruses and the vaccine strain found in the Measles, Mumps, and Rubella (MMR) vaccine.

For general information on measles virus, please refer to the CDC's measles website at: <https://www.cdc.gov/measles/index.html>.

IMPORTANT: Consultation with the Bureau of Communicable Disease Control and Prevention (BCDCP) is required prior to specimen collection or submission. You may contact BCDCP at 573-751-6113 during business hours or 800-392-0272 (24/7).

After contacting BCDCP (see above) and receiving testing approval, the samples should be collected in the manner outlined below and placed in an appropriate biosafety shipping container. Collection and shipping materials are provided by the Missouri State Public Health Laboratory and are available upon request once approval for testing has been granted.

SPECIMEN COLLECTION

Detection of measles RNA is most sensitive when respiratory specimens are collected within the first 3 days of rash onset. If unable to collect a respiratory specimen within 72 hours of rash onset, urine specimens may be collected **in addition to** respiratory specimens. Collection of a respiratory specimen along with a urine sample may improve test sensitivity, especially when collecting near the end of the RT-PCR collection window.

Once testing approval has been obtained from BCDCP, collect specimens as soon as possible after illness onset using the following criteria:

PROMOTING HEALTH AND SAFETY

<p>When collecting specimen within 72 hours of rash onset, collect one of the following:</p>	<p>When collecting specimens between 4-10 days of rash onset, collect the following:</p>
<p>1. Throat swab</p> <ul style="list-style-type: none"> • Use only sterile Dacron, Nylon, Polyester, or flocked swabs with plastic shafts. • Collect throat swab by swabbing the posterior pharynx and tonsillar areas, avoiding the tongue. • Immediately place swab into screw-capped vial of viral transport media, breaking off the end of the swab to ensure proper closure of the specimen vial. <p style="text-align: center;">OR</p> <p>2. Nasopharyngeal (NP) swab</p> <ul style="list-style-type: none"> • Use only sterile Dacron, Nylon, Polyester, or flocked swabs with plastic shafts. • Immediately place swab into screw-capped vial of viral transport media, breaking off the end of the swab to ensure proper closure of the specimen vial. 	<p>1. Throat or Nasopharyngeal swab (REQUIRED)</p> <ul style="list-style-type: none"> • Use only sterile Dacron, Nylon or flocked swabs with plastic shafts. • Immediately place swab into screw-capped vial of viral transport media, breaking off the end of the swab to ensure proper closure of the specimen vial. <p style="text-align: center;"><u>AND</u></p> <p>2. Urine sample (REQUIRED)</p> <ul style="list-style-type: none"> • Use only sterile urine collection container. • Close container tightly to ensure specimen does not leak.
<p>For ALL specimens collected please ensure the following:</p> <ul style="list-style-type: none"> • Information on the specimen container must match the information on the test request form. Label each specimen container with the following: <ul style="list-style-type: none"> ○ Patient name ○ Specimen Type ○ Date of Birth ○ Collection Date • Refrigerate (2-8°C) samples immediately after collection 	

TEMPORARY STORAGE OF SPECIMENS

Specimens should be shipped to the Missouri State Public Health Laboratory as soon as possible.

- Store the specimen at refrigerator temperature (2-8°C) pending shipment.
- If specimens will not be received by the MSPHL within 10 days of collection, they should be stored frozen (≤-20°C).

SPECIMEN SUBMISSION

- Complete a separate MSPHL Test Request Form (TRF) for each specimen using one of the following options:
 - Electronic submission using Lab Web Portal
 - Contact us for registration information
 - Manual (paper) Test Request Form
 - Available online at <https://health.mo.gov/lab/pdf/Virology.pdf>
- The TRF should include the following information at a MINIMUM:
 - In the “MOLECULAR (PCR)” section of the TRF, select the “Other (Specify)” box and write “Measles” in the available text field
 - Select the specimen type in the “Specimen Information” section
 - Collection date
 - Patient first and last name
 - Patient DOB
 - Submitting facility name and contact information
 - Date of symptom onset
 - Although not required, any additional patient demographic information that is available is helpful
- Specimens should be shipped to the MSPHL as soon as possible on freezer packs. Freezer packs should be stored in freezer for at least 24 hours prior to shipping.
- If specimens will not be received by the MSPHL within 10 days of collection, specimens should be stored frozen ($\leq -20^{\circ}\text{C}$) and shipped on dry ice.

SHIPPING INSTRUCTIONS

The MSPHL will provide all shipping materials and cover shipping costs. Please contact the MSPHL to have collection kits sent to your facility.

****Please only use these collection kits for Measles specimens****

Specimens may be sent to the MSPHL via the MSPHL Courier System. If utilizing the MSPHL Courier, samples should be sent out **no later than** the Friday courier pickup each week.

[GIS map of courier drop off locations Monday-Friday](#)

[List of courier drop-off locations by county Monday-Friday](#)

[Sunday Courier Locations](#)

If you do not have access to the MSPHL Courier, samples may be sent via FedEx. If utilizing FedEx for sample submission, ensure they are sent by priority shipping for receipt within 24 hours and that they will not arrive in Jefferson City on Saturday, Sunday, or a holiday.

DO NOT SHIP CLINICAL SPECIMENS VIA UPS

Please send all specimens to this address:

Missouri State Public Health Laboratory

ATTN: Molecular Unit

101 North Chestnut Street

Jefferson City, MO 65102

Phone# 573-751-3334, Option 2

HAVE QUESTIONS OR NEED ASSISTANCE?

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