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MISSOURI STATE PUBLIC HEALTH LABORATORY
SUBMISSION OF POSITIVE INFLUENZA & SARS-CoV-2 SPECIMENS FOR VIROLOGIC SURVEILLANCE

Updated 1/2024

In coordination with the Centers for Disease Control and Prevention (CDC), the Missouri State Public Health Laboratory actively participates in virologic surveillance of Influenza and SARS-CoV-2 viruses circulating across the state. Through these surveillance efforts, we track which viruses are currently circulating, monitor for novel variants as they arise in real-time, and provide data to the CDC which assists in both antiviral resistance testing and vaccine strain selection.

In addition to routine testing, the MSPHL also participates in the CDC's Advanced Molecular Detection (AMD) Program by integrating next-generation sequencing and bioinformatics capabilities into our SARS-CoV-2 and influenza surveillance activities. By participating in this program, public health experts in Missouri are able to monitor important changes in these viruses as they circulate and advance public health research in the areas of transmission dynamics, host response, and evolution of the virus.

WHY IS THIS IMPORTANT?

Routine analysis of genetic sequence data enables scientists and public health experts to identify and characterize variant viruses and to investigate how variants impact disease severity and the effectiveness of vaccines and therapeutics. Surveillance of emerging variants can help detect variants with:

- Ability to spread more quickly throughout the population
- Ability to cause more severe disease
- Ability to evade detection by specific diagnostic tests
- Decreased susceptibility to therapeutics
- Ability to evade natural or vaccine-induced immunity

SELECTION CRITERIA:

- Specimens submitted for influenza and/or SARS-CoV-2 surveillance testing should have a previous positive viral diagnostic test, such as RT-PCR, other nucleic acid amplification test, or an antigen test.
- Prioritize specimens where the RT-PCR Ct value is ≤ 28 (**Not required if Ct value is not available**)
- For influenza specimens, submit up to 5-10 samples per week using the following criteria:
    - A sampling of Influenza A positives (H3N2, H1N1)
    - Specimens that test positive for influenza B
    - All specimens that test as "unsubtypeable" on in-house testing methods (regardless of Ct value or quantity)
- For SARS-CoV-2 specimens, submit up to 5-10 specimens per week.

SPECIMEN COLLECTION

- Use only a Dacron/flocked swab or equivalent. Do not use wood-shafted or cotton swabs for specimen collection.
- Collect a Nasopharyngeal Swab, Nasal Swab or Throat Swab for respiratory testing.
- You may use either MSPHL-supplied viral transport media or other commercially-available viral transport media

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 and ship on frozen freezer packs.
- Specimens may be batched and shipped on a weekly basis. Specimens that will not be received by the MSPHL within 72 hours of collection should be stored at -70°C and shipped on dry ice. Once a specimen has been frozen, it should remain frozen until it is tested at the MSPHL.

SPECIMEN SUBMISSION

- Complete a 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, choose either Influenza or SARS-CoV-2
    - Select the specimen type in the "Specimen Information" section
    - Collection date
    - Patient first and last name
    - Patient DOB
    - Submitting facility name and contact information
    - **Although not required, additional patient information such as address/onset date is helpful**
- At least 500 µL of Viral Transport Media (VTM) should be in specimen vial
- Specimens should be shipped to the MSPHL within 72 hours of collection on freezer packs. If this is not possible, the specimen should be frozen and shipped to the MSPHL on dry ice. Specimens received beyond 72 hours that are not frozen will be deemed unsatisfactory for testing.

PACKING FOR SHIPMENT OF SPECIMENS

- Place dry ice/freezer packs in Styrofoam box. Dry ice is required for specimens to remain frozen during shipping.
- Place specimen tube inside ziptop biohazard bag and seal
- Fold Test Request Form and slide into pocket on outside of bag
- Place the bags inside Styrofoam box with dry ice/freezer packs
- Close lid on Styrofoam box
- Place Styrofoam box inside cardboard box and tape cardboard box shut

****DO NOT USE ICE MADE WITH WATER WHEN SHIPPING SPECIMENS****

SHIPMENT OF SPECIMENS

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

****Please use these collection kits for Influenza and SARS-CoV-2 Surveillance specimens only****

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

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 to send in samples, ensure that they will not arrive in Jefferson City on Saturday, Sunday, or a holiday. Please contact the Molecular Unit at the MSPHL and a FedEx shipping account number will be provided for your facility to use.

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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