



## MEASLES LABORATORY TESTING GUIDANCE

Appropriate Clinical Specimens for Laboratory Testing*			
	Throat/Nasal/NP Swab <sup>†</sup>	Urine <sup>†</sup>	Serum
PCR <sup>§¶</sup>	Yes	Yes	
IgM or IgG Serology			Yes

\* Only patients with symptoms consistent with measles will be considered for PCR or IgM testing.

<sup>†</sup> Collection of both a respiratory swab and urine within 2 weeks of rash onset improves the odds of detecting viral RNA.

<sup>§</sup> PCR is the preferred method for confirming an acute case.

<sup>¶</sup> Sequencing will be performed on PCR-positive specimens to determine viral genotype.

### Throat (Oropharyngeal), Nasal or NP Swab

- Collect within 2 weeks of rash onset.
- Use a sterile synthetic swab (e.g., Dacron). Place swab into **liquid** viral or universal transport medium.
- Throat swab is the preferred respiratory specimen. Vigorously swab tonsillar areas and posterior nasopharynx with sterile Dacron swab.
- Nasopharyngeal swab: firmly rub nasopharyngeal passage with sterile Dacron swab.

### Urine

- Collect 10-50 ml urine in a sterile container.
- Collect from the first part of the urine stream, within 2 weeks of onset. The first morning void is ideal.
- Process the urine by centrifuging at 500-600 x g for 10 minutes at 4°C. Resuspend the pellet in 2-3 ml of viral transport medium. If processing is not possible, the entire sample should be stored and shipped at 2°- 8°C by overnight delivery service.

### Serum IgM or IgG testing

- Collect 7-10 ml of blood in a red top or serum separator tube. Capillary blood (finger or heel stick) can be used for pediatric patients, if necessary; at least 3-5 capillary tubes are needed.
- The optimal time for collecting acute blood is at least 72 hours after rash onset. Serum collected before then may be falsely negative, but can be tested.
- If initial IgM testing is negative in an unvaccinated person and measles is strongly suspected, a second serum sample and specimens for PCR should be collected.
- IgG testing can be done on case contacts to determine prior exposure to the virus.

### Specimen storage and shipping

- Store all specimens at 4°C and ship on cold pack within 24 to 72 hours.
- For longer storage, process serum and urine. Store and ship at -70°C or colder.

### Specimen shipment

- Complete the VRDL general specimen submittal form for each specimen (<http://tinyurl.com/VRDLLab300>).
  - Indicate if the specimen(s) is from a suspect case OR from a contact (for IgG testing only).
  - For a suspect case, include date of rash onset and whether person is linked to a confirmed case.
  - For a recent vaccine recipient, indicate date of vaccination.
- Send submittal form by secure email to [VRDL.submittal@cdph.ca.gov](mailto:VRDL.submittal@cdph.ca.gov) and include hard copy with specimens.
- Email package tracking number to expedite processing.
- Measles specimens should be packaged separately from other specimens sent to CDPH for testing.

**Ship specimens to: Specimen Receiving  
CDPH VRDL  
850 Marina Bay Parkway  
Richmond, CA 94804**

**Notify CDPH that specimens are being submitted** by emailing [VRDL.submittal@cdph.ca.gov](mailto:VRDL.submittal@cdph.ca.gov) and [measlesreport@cdph.ca.gov](mailto:measlesreport@cdph.ca.gov). Please include patient name and date of birth, and name and phone number of investigator in your jurisdiction who can provide additional information, if needed.

### Other resources

- Clinical guidance for identification of suspect measles cases: <https://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPH-MeaslesClinicalGuidanceJanuary2016.pdf>
- Measles case investigation “quicksheet”: <https://www.cdph.ca.gov/programs/immunize/Documents/CDPH-MeaslesInvestigationQuicksheet.pdf>

**Questions** about specimen collection, submittal, or shipping: Please contact the VRDL Medical and Epidemiology Liaison Section at (510) 307-8585 or email [VRDL.submittal@cdph.ca.gov](mailto:VRDL.submittal@cdph.ca.gov).

For questions about whether a measles test is appropriate or a priority, please contact the CDPH Immunization Branch at (510) 620-3737 and ask to be referred to the epidemiologist on-call.