



## MUMPS LABORATORY TESTING GUIDANCE

Testing Method	Buccal or Oral Swab	Serum
RT-PCR* <sup>§</sup>	Yes	
IgM or IgG Serology		Yes

\*RT-PCR is the preferred method for confirming an acute mumps case; a buccal swab is the preferred sample.

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

Only patients with symptoms consistent with mumps will be considered for RT-PCR or IgM testing.

**Health care providers must contact their local public health department for mumps virus consultation and testing approval.**

### Buccal or Throat (Oropharyngeal) Swab

- Collect as soon as mumps is suspected.
- Massage the parotid gland (the space near the upper rear molars between the cheek and teeth) for 30 seconds, then vigorously swab the parotid area with a sterile synthetic swab (e.g., Dacron).
- [Detailed buccal swabbing instructions](http://www.cdc.gov/mumps/lab/detection-mumps.html) are available at <http://www.cdc.gov/mumps/lab/detection-mumps.html>
- Place swab into 2-3 ml of **liquid** viral or universal transport medium.
  - Acceptable liquid transport media include VTM, UTM, cell culture medium, or a sterile isotonic solution such as PBS with added protein.

### Serum IgM or IgG testing

- Collect as soon as mumps is suspected.
- Collect 7-10 ml of blood in a red top/serum separator tube.
- The optimal time frame for an acute blood specimen is at least 96 hours after onset. Serum collected before then may be falsely negative, but can be tested.
- IgM testing: False positive and non-specific reactions are known to occur. False negative reactions may occur in vaccinated persons or if serum is collected less than 96 hours after onset, and do not rule out mumps.
- IgG testing: Paired sera collected 10-14 days apart may show a diagnostic rise in IgG in a person with mumps. IgG testing can also be done on a single serum from case contacts to assess prior exposure to the virus.

### Urine - Buccal specimens are preferred for mumps testing.

- Urine is not an approved specimen for RT-PCR, but it may be tested for surveillance purposes.
- Submission of urine for culture requires pre-approval.

### 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, and store and ship all specimens at -70°C or colder.

### Questions about specimen collection, submittal, or shipping:

- Contact the VRDL Medical and Epidemiology Liaison Section at (510) 307-8585 or [VRDL.submittal@cdph.ca.gov](mailto:VRDL.submittal@cdph.ca.gov).

**Specimen shipment to VRDL requires *prior consultation with your local public health department.*** Jurisdictions without a local Public Health Laboratory may ship specimens directly to VRDL. To ship approved specimens:

- Complete the VRDL general purpose specimen submittal form for each specimen (available from [VRDL Specimen Submittal Forms web page](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/VRDL_Specimen_Submittal_Forms.aspx): [https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/VRDL\\_Specimen\\_Submittal\\_Forms.aspx](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/VRDL_Specimen_Submittal_Forms.aspx))
  - 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 parotitis onset and whether person is linked to a confirmed case.
  - Include mumps vaccination dates, if known.
- Send submittal form **by secure email** to [VRDL.submittal@cdph.ca.gov](mailto:VRDL.submittal@cdph.ca.gov); include hard copy with specimens.
- In outbreak settings, please email package tracking information to expedite processing.
- For jurisdictions without a local Public Health Laboratory, specimens can be shipped directly to VRDL using the following address:  
**Ship approved 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). 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.

**Report** suspected, probable, and confirmed cases via CalREDIE or the [CDPH case report form](https://www.cdph.ca.gov/CDPH%20Document%20Library/ControlledForms/cdph8690.pdf): <https://www.cdph.ca.gov/CDPH%20Document%20Library/ControlledForms/cdph8690.pdf> or contact the CDPH Immunization Branch at (510) 620-3737 and ask to be referred to the epidemiologist on-call.

### Other resources

- [Mumps case investigation "quicksheet"](#)
- [CDC Mumps specimen collection guidance](http://www.cdc.gov/mumps/lab/specimen-collect.html): <http://www.cdc.gov/mumps/lab/specimen-collect.html>