ZIKA LABORATORY TESTING GUIDANCE
(Currently, CDC is the only diagnostic testing laboratory) *

Appropriate Clinical Specimens for Laboratory Testing of Symptomatic Patients (CDC)

<table>
<thead>
<tr>
<th></th>
<th>Serum</th>
<th>CSF</th>
<th>Other†</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT-PCR§</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Serology: IgM with PRNT confirmation†</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* CDPH is validating both PCR and IFA assays to detect Zika and currently can perform PRNT for surveillance purposes.
† Other specimen types (e.g., urine, amniotic fluid, tissues) will be considered on a case by case basis.
§ RT-PCR is the preferred method for confirming an acute case.
†† PRNT (plaque-reduction neutralization test) measures virus-specific neutralizing antibodies.

**Recommended Diagnostic Testing**

- For patients with acute fever, rash, myalgia, or arthralgia and travel history within the previous 2 weeks to an area with ongoing transmission, testing should be considered for the following viruses:
  - Zika
  - Chikungunya
  - Dengue

- CDPH can provide diagnostic testing (PCR and serology) for dengue and chikungunya viruses.
- CDC can perform diagnostic testing for Zika virus.
- Consult with your local public health department for possible testing.

**RT-PCR Testing**

- Collect serum or CSF within 7 days of illness onset.
  - Collect at least 2 ml of serum (5-10 ml of blood) in a red top or serum separator tube.
  - For CSF, at least 1 ml is required.

**Serology: IgM and PRNT testing**

- Optimal collection of acute blood is >3 days after illness onset. Serum collected within 7 days of illness onset may be falsely negative.
- If initial IgM testing is negative and Zika is strongly suspected, a second serum sample should be collected.
- IgM antibodies against Zika virus, dengue viruses, and other flavirviruses (e.g., yellow fever virus, West Nile virus) have cross-reactivity possibly generating false positive results in serological tests; therefore, all IgM positive samples will be reflexed to PRNT to discriminate among these viruses.

**Other tissues:** Consult with VRDL prior to collecting other tissues for testing.

**Specimen storage and shipping**

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

**Specimen shipment – Complete 2 forms**

1. VRDL General Purpose Specimen Submittal Form Lab 300:
   - [https://www.cdph.ca.gov/programs/vrdl/Documents/VRDL_General_Human_Specimen_Submittal_Form_Lab300.pdf](https://www.cdph.ca.gov/programs/vrdl/Documents/VRDL_General_Human_Specimen_Submittal_Form_Lab300.pdf)

2. 2016 version of CDC DASH form with your public health laboratory contact information as the Intermediate Submitter.
   - Date of onset, required
   - Detailed travel history including dates and stopovers, required
   - Clinical symptoms, required (CDC and VRDL will not test asymptomatic patients unless there is ultrasound evidence of microcephaly or intracranial calcifications)
   - Pregnancy status, requested (testing will be expedited for pregnant women)
   - Select Arbovirus Serology for the test request and specify Zika testing in the clinical information.

**Ship specimens to:** Specimen Receiving

- CDPH VRDL
- 850 Marina Bay Parkway
- Richmond, CA 94804

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