Zika virus serological test interpretation for patients with discordant IgM results between testing at a commercial laboratory and public health laboratories

<table>
<thead>
<tr>
<th>OVERALL RESULT *</th>
<th>COMMERCIAL LABORATORY</th>
<th>PUBLIC HEALTH LABORATORY TESTS</th>
<th>GUIDANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Zika IgM positive b,c</td>
<td>Zika IgM negative b</td>
<td>Zika PRNT</td>
</tr>
<tr>
<td>No evidence of past or recent Zika virus infection</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Past infection with Zika virus</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Past infection with Zika virus and dengue virus</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Past infection with dengue virus</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Findings suggest a false positive commercial Zika virus IgM test result. There is no laboratory evidence of either a current or past infection with Zika virus or dengue virus based on repeat testing at the Public Health Laboratory(ies).

Findings suggest the patient was infected with Zika virus at some point in the past. Use exposure dates to determine if the patient conceived or was pregnant at the time of exposure to Zika virus. If, exposure to Zika may have occurred during pregnancy, note the following recommendations:
- Prenatal management: Consider serial prenatal ultrasounds to evaluate for fetal abnormalities. Continue to monitor for ongoing risk of Zika virus exposure.
- Postnatal management: Please contact the DOHMH at the time of delivery to arrange for Zika virus testing of the infant and considerations for placental tissue testing.

Findings suggest your patient was infected with a flavivirus (Zika and/or dengue) at some point in the past. Consider dengue IgM testing to determine if there is evidence of an acute dengue infection.

Findings suggest your patient was exposed to dengue virus at some point in the past. Consider dengue IgM testing to determine if there is evidence of an acute dengue infection. It is unlikely that the patient has ever been infected with Zika virus.

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a. Table refers to patients with no or negative results on NAAT; a positive NAAT confirms infection with Zika virus

b. The Zika virus IgM assay is a screening test, therefore the final test interpretation depends on additional results from confirmatory testing (i.e., plaque-reduction neutralization test “PRNT”). Wait for the final confirmatory testing result before making any healthcare decisions. In New York City, all confirmatory PRNT testing is done at Wadsworth Center (WC) Laboratory. Commercial laboratories automatically forward specimens with a positive IgM result to WC. Confirmatory testing can take up to four weeks and PRNT results will be reported via the commercial laboratory to which the original specimen was submitted.

c. Zika IgM positive results from InBios ELISAs may be reported out as either of the following:
- **Presumptive Zika Positive** – presence of detectable Zika IgM may indicate recent infection with Zika virus
- **Possible Zika Positive** – may be due to low levels of Zika IgM or confounding by IgM from other flaviviruses

Other Zika IgM results from the InBios ELISA include:
- **Presumptive Other Flavivirus Positive** – presence of IgM to a flavivirus other than Zika, no evidence of a recent infection with Zika virus; specimens may not be sent to WC for further testing by PRNT
- **Negative** – no evidence of recent Zika virus infection

d. Consider re-testing for an (1) Asymptomatic patient - if specimen collected less than 3 weeks after last potential exposure (e.g., unprotected sex, time spent in a Zika-affected area) or, (2) Symptomatic patient - if specimen collected less than 8 days after illness onset.