

Labstrack – January 2012

Dengue Fever - Interpreting Serology Results (Updated)

To Health Care Providers:

Dengue Fever

Dengue fever is an acute viral disease characterized by fever, headache, body pains and rash. In its most severe form, Dengue hemorrhagic fever infected patients experience severe fever and renal failure. This may lead to dengue shock syndrome, which can be fatal. Dengue fever virus is a Flavivirus, which is closely related to Yellow Fever Virus and Japanese Encephalitis Virus. Dengue Fever is transmitted by the bite of an infected mosquito and is associated with travel to the Caribbean, Asia and other endemic areas.

Test Request

The Ontario Public Health Laboratories (OPHL) previously performed Hemagglutination inhibition titres for Dengue fever. Since June 25, 2008, if Dengue fever testing is requested, the Public Health Ontario Toronto Laboratory will perform both IgG and IgM serology using an ELISA technique. This methodology offers greater sensitivity and specificity.

When requesting Dengue IgG and IgM serology, indicate clearly on the requisition the following information:

- Clinical Information – specify history and location of travel, relevant symptoms with date of onset, including history of mosquito bites

Specimen Requirements

Serum is the preferred sample for Dengue IgG and IgM serology. Haemolysed, icteric, lipemic or microbially contaminated sera are not recommended for testing. Current serological tests have not been validated for cerebral spinal fluid (CSF) samples.

- 1 mL of serum is required
- Transport the specimen to the laboratory as soon as possible after collection. If this is not possible, the specimen should be refrigerated until the time of delivery.

Dengue Fever – Interpreting Serology Results (Updated) (Continued)

Results Interpretation

Cross reactions may occur with other Flaviviruses such as St. Louis Encephalitis, West Nile, Japanese B Encephalitis, Powassan and Yellow Fever. Results should be interpreted in the context of the clinical and travel history of the patient.

IgG ELISA	IgM ELISA	Reported Results
Non-reactive	Non-reactive	No serological evidence of infection.
Indeterminate	Indeterminate	Antibody status inconclusive.
Indeterminate	Non-reactive	Antibody status inconclusive.
Non-reactive or Indeterminate	Reactive	May indicate recent infection.
Non-reactive	Indeterminate	Antibody status inconclusive.
Reactive	Non-reactive	No serological evidence of recent Dengue infection. Evidence of previous Flavivirus infection.
Reactive	Indeterminate	Possible recent Dengue Fever infection, or past infection with non-specific IgM reactivity.
Reactive	Reactive	Indicates recent primary infection.

For further information:

- Call the Customer Service Centre at 416 235 6556 or toll-free at 1 877 604 4567, or email CustomerServiceCentre@oahpp.ca
- For PHO Specimen Collection information, refer to <http://www.oahpp.ca/services/specimen-collection-guide.html>
- The current version of the PHL laboratory requisition form is available at <http://www.oahpp.ca/resources/requisitions.html>
- To view our Lababstracts, visit <http://www.oahpp.ca/resources/lababstracts.html>
- To subscribe to future PHO Lababstracts, please e-mail lababstracts@oahpp.ca