

## Labstract – July 2018

# *Toxoplasma gondii* Serology Testing and Interpretation - Update

## Audience

Health care providers who order *Toxoplasma gondii* IgM and IgG serology for diagnosis of acute or past infection and assessment of immunity.

## Overview

Effective July 2018:

- Public Health Ontario (PHO) has changed to the DiaSorin Liaison Toxo IgM & IgG chemiluminescent assays (CLIA). This is a change from the previous *Toxoplasma gondii* IgG chemiluminescent microparticle immunoassay (CMIA) test, the *Toxoplasma gondii* total antibody agglutination and *Toxoplasma gondii* IgM IFA assays.
- The assay changes are a result of a competitive procurement and technical evaluation at PHO Laboratory (PHOL) on Health Canada approved *Toxoplasma gondii* IgM and IgG assays. Based on evaluation and comparison of assays, the performance characteristics of the new assay will not have an impact on detecting *Toxoplasma gondii* antibodies.
- Results will be reported qualitatively as Reactive, Non-reactive or Indeterminate.

## Background Information

Toxoplasmosis is a widespread infectious disease caused by an intracellular protozoan parasite called *Toxoplasma gondii*. The disease can be transmitted by ingestion of food contaminated with oocysts, direct contagion from domestic animals or transplacental infection to the newborn. Toxoplasmosis is largely asymptomatic in the normal adult population and more often symptomatic in immunocompromised patients. Infection during pregnancy may pose a threat to the fetus and result in congenital infection. Serological diagnosis of acute toxoplasmosis allows for treatment which may reduce the risk of disease in immunocompromised and pregnant patients.

*Toxoplasma gondii* IgG serological testing is performed for determination of immune status and evidence of past infection.

*Toxoplasma gondii* IgM and IgG serological testing is performed for acute diagnosis when requested and appropriate clinical information is provided.

# Results Interpretation

Table 1: The following table is a guide for the interpretation of common *Toxoplasma gondii* IgG and IgM results:

IgG Result	IgM Result	Interpretation
Reactive	Reactive	Possible recent or acute infection
Reactive	Indeterminate	Possible recent infection or past infection with non-specific IgM reactivity
Reactive (Patient >12 months)	Non-reactive	IgG antibody detected
Reactive (Patient <12 months)	Non-Reactive	IgG antibody detected. The IgG antibody detected may represent maternal transfer of antibodies which may persist up to 12 months.
Indeterminate	Reactive	Possible recent or acute infection
Indeterminate	Indeterminate	Antibody status inconclusive
Indeterminate	Non-Reactive	Antibody status inconclusive
Non-Reactive	Reactive	Possible recent or acute infection
Non-Reactive	Indeterminate	Possible recent infection or non-specific IgM reactivity
Non-Reactive	Non-Reactive	No serological evidence of infection

Note: for assistance with alternate result combinations, please contact PHOL Customer Service Centre at 416-235-6556 or 1-877-604-4567 (toll-free), or by email at [CustomerServiceCentre@oahpp.ca](mailto:CustomerServiceCentre@oahpp.ca)

## Specimen Requirements

- Submit clotted whole blood or, serum separator tube (SST) or,
- Minimum 1 ml of serum in a sterile tube or container
- Detailed collection instructions are available at [publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Index.aspx](http://publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Index.aspx)

## Requisition

Complete all fields of the [PHO General Test Requisition](#): include, the patient’s full name, date of birth, Health Card Number (must match the specimen label), physician name and address and either:

- *Toxoplasma gondii* IgG in Section 3-**Test Description**, if immunity is required or,
- *Toxoplasma gondii* IgM and IgG in Section 3-**Test Description**, if diagnosis of recent or acute infection is required along with the following clinical/exposure information:
  - Date of onset and date of collection
  - Clinical signs and symptoms
  - Exposure information, such as contact with a known case, cats or ingestion of poorly/undercooked meat

*Toxoplasma gondii* IgM testing will only be performed when the appropriate clinical and/or exposure information is included on the requisition.

## Reference:

Product Insert – LIAISON Toxo IgG II 03-2016-09 and LIAISON Toxo IgM II 03-2016-09

## For further information:

- Contact the PHOL Customer Service Centre at 416-235-6556 or 1-877-604-4567 (toll-free), or by email at [CustomerServiceCentre@oahpp.ca](mailto:CustomerServiceCentre@oahpp.ca)
- For PHOL specimen collection information and previous Labstracts, refer to [publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/default.aspx](http://publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/default.aspx)
- The current version of the PHOL General Test Requisition and other forms are available at [PHO General Test Requisition](#)
- To subscribe to future Labstracts, [register on our website](#)
- To register for Autofax and receive laboratory reports by fax directly from our laboratory information system as soon as they are released, contact the PHOL Customer Service Centre.