

TELEFAX

DATE:
TO:
FAX:
FROM: Toxoplasma Serology Laboratory
RE: **SPECIMEN REQUIREMENTS AND TESTING INFORMATION** (effective 3/19/18)

THIS TRANSMISSION CONSISTS OF **16** PAGES INCLUDING THIS COVER PAGE. IF THERE ARE ANY DISCREPANCIES, PLEASE CONTACT US AT (650) 853-4828. FAX (650) 614-3292.

Requisition forms: **Page 2 - 5**

Testing in Pregnant Women

Testing in Newborns and Infants (1 year of age or younger)

Testing in Non-Pregnant Adults and Older Children (more than 1 year of age)

Testing in Immunocompromised Patients

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Contact Information:

Toxoplasma Serology Laboratory
PAMF Ames Building
795 El Camino Real
Palo Alto, CA 94301

Phone #: (650) 853-4828
Fax #: (650) 614-3292
Email: toxolab@pamf.org

- Our specimen requirement for serologic testing is 3 ml of serum from a serum-separator tube or a red-top tube (minimum 0.5 ml; may be QNS for repeat testing). Please centrifuge the specimen, and *if possible, send serum only*. Grossly hemolyzed, icteric, lipemic, and bacterially contaminated specimens cannot be tested. Serum specimens can be sent at ambient temperature.
- THE PATIENT'S NAME AND COLLECTION DATE MUST APPEAR ON SPECIMEN LABEL. Unlabelled specimens will not be tested.

Contents of packet and additional information are available at:

WWW.PAMF.ORG/SEROLOGY

Testing in Pregnant Women

Patient Information: *Patient name and collection date must also appear on specimen label.*

Patient's Last Name: _____ First Name: _____ Birth date: _____
 Patient ID#: _____ Specimen type: _____ Collection date: _____
 Physician's Name: _____ Phone: _____
 Physician's Address: _____ Fax: _____

History (important for proper interpretation of results)

Pregnant: Gestational age when specimen collected (must be provided) _____

Symptoms None Fever Flu-like symptoms

Other _____

Immunocompromised N Y HIV AIDS CD4 count _____

Risk Factor(s) (or exposure) Ingestion of raw or undercooked meat

Cat feces Gardening None

Other _____

Other (please specify) _____

Lymphadenopathy N Y Date of onset _____

Location of node(s) _____

Toxoplasma test results from other laboratory IgG: Pos. Neg

IgM: Pos. Neg

▶Please include a copy of biopsy report if performed

Eye disease N Y

Other (please specify) _____

Eye findings _____

▶Please include a copy of the report if available

Bilateral Unilateral Macular involvement Peripheral retinal disease

Recommended Tests

*For patients reported to have **positive IgM** results by another laboratory or suspected to have acute toxoplasmosis*

Pregnancy Panel (16 weeks gestation or earlier):
IgG (Dye test), IgM ELISA, Avidity \$516
Reflex to other tests in the Toxoplasma Panel as indicated * \$481

Pregnancy Panel (more than 16 weeks gestation):
IgG (Dye test), IgM ELISA, AC/HS \$516
Reflex to Avidity, and/or other tests in the Toxoplasma Panel as indicated * \$481

Test to consider according to history and clinical manifestations:
 (see PCR specimen requirements)

PCR in amniotic fluid (18 weeks or later in gestation) \$435

*For initial Toxoplasma serology screening or patients reported to have a **negative IgM** test result by another laboratory*

IgG (Dye test), IgM ELISA \$330
Reflex to Avidity, and/or other tests in the Toxoplasma Panel as indicated * \$667

Other Test Options

Individual tests

IgG (Dye Test) \$170
IgM ELISA \$175
IgA ELISA \$170
AC/HS \$186
Avidity; for clinical recommendations IgG (Dye test) and IgM ELISA are required \$186
PCR (see PCR specimen requirements) \$455
Solid tissues (specimen type) _____ \$435
Amniotic fluid, whole blood, other body fluids (specimen type) _____ \$627
Isolation of *T. gondii* (specimen type) _____

Panels

Toxoplasma Panel \$811
 (IgG (Dye test), IgM ELISA, IgA ELISA, IgE ELISA, AC/HS)

*If parallel testing is indicated a \$70.00 per test charge will be added.

*Our TSL physicians will review results and select appropriate test(s) in the Toxoplasma Panel (IgG (Dye Test); IgM ELISA, IgA ELISA and IgE ELISA; AC/HS).

Client's Billing address (MUST be included. We cannot bill the patient or insurance.)

Results address

Attn:
 PO# (if required for payment):

Attn:

Phone: _____ Fax: _____

Phone: _____ Fax: _____

E-mail:

Email:

Send to: Toxoplasma Serology Laboratory, PAMF Ames Building, 795 El Camino Real, Palo Alto, CA 94301
 Tel: (650) 853-4828 Fax: (650) 614-3292 Email: toxolab@pamf.org Web site: www.pamf.org/serology

For laboratory use only:

Customer number: _____
 Doctor number: _____
 Accession number: _____

Specimen condition:
Normal Hemolyzed Icteric Lipemic
 Other: _____

Testing in Newborns and Infants (1 year of age or younger)

Patient Information: *Patient name and collection date must also appear on specimen label.*

Patient's Last Name: _____, First Name: _____ Birth date: _____ Gender: _____
 Patient ID#: _____ Specimen type: _____ Collection date: _____
 Physician's Name: _____ Phone: _____
 Physician's Address: _____ Fax: _____

History in Newborns and Infants (important for proper interpretation of results)

Eye findings _____ Normal *Hydrocephaly (ventriculomegaly)* N Y Ultrasound CT scan
Neurological findings _____ Normal *Cerebrospinal fluid findings* Cell count _____
Brain calcifications N Y Ultrasound CT Scan Glucose _____ Protein _____ Normal
Transfusion history (dates and types) _____ *Other* Please specify _____

Maternal Serum (important for proper interpretation of results in all infants 1 year of age or younger)

Mother's name _____ Mother's date of birth _____ Mother's serum collection date _____
 Previously tested at the Toxoplasma Serology Laboratory IgG (Dye test), IgM ELISA \$330
 IgG (Dye test), IgM ELISA, AC/HS \$516 Reflex to Avidity and/or to other tests in the Toxoplasma
 Reflex to Avidity and/or to other tests in the Toxoplasma OR Panel as indicated * \$667
 Panel as indicated * \$481

Recommended Tests

For newborns and infants less than 6 months of age

Toxoplasma Infant Panel (IgG (Dye test), IgM ISAGA, IgA ELISA) \$495
Tests to consider according to history and clinical manifestations:
 PCR (see PCR specimen requirements)
 Solid tissues (specimen type) _____ \$455
 Whole blood, other body fluids (specimen type) _____ \$435

For infants 6 months to 1 year of age

IgG (Dye test), IgM ELISA \$330
 Reflex to Avidity and/or to other tests in the Toxoplasma
 Panel as indicated * \$667

Other Test Options

Individual tests
 IgG (Dye Test) \$170
 IgM ISAGA \$175
 IgA ELISA \$170
 PCR (see PCR specimen requirements)
 Solid tissues (specimen type) _____ \$455
 Whole blood, other body fluids (specimen type) _____ \$435
 Isolation of *T. gondii* (specimen type) _____ \$627

*If parallel testing is indicated a \$70.00 per test charge will be added.

Other Test Options

Individual tests
 IgG (Dye test) \$170
 IgM ELISA \$175
 IgA ELISA \$170
 AC/HS \$186
 Avidity; for clinical recommendations IgG (Dye test) and IgM ELISA are required \$186
 PCR (see PCR specimen requirements) \$455
 Solid tissues (specimen type) _____ \$435
 Whole blood, other body fluids (specimen type) _____ \$627
 Isolation of *T. gondii* from (specimen type) _____
Panels
 Toxoplasma Panel \$811
 (IgG (Dye test), IgM ELISA, IgA ELISA, IgE ELISA, AC/HS)

*Our TSL physicians will review results and select appropriate test(s) in the Toxoplasma Panel (IgG (Dye Test); IgM ELISA, IgA ELISA and IgE ELISA; AC/HS).

Client's Billing address (MUST be included. We cannot bill the patient or insurance.)

Results address

Attn: _____
 PO# (if required for payment): _____
 Phone: _____ Fax: _____
 E-mail: _____

Attn: _____
 Phone: _____ Fax: _____
 Email: _____

Send to: Toxoplasma Serology Laboratory, PAMF Ames Building, 795 El Camino Real, Palo Alto, CA 94301
 Tel: (650) 853-4828 Fax: (650) 614-3292 Email: toxolab@pamf.org Web site: www.pamf.org/serology

For laboratory use only:

Customer number: _____ Specimen condition: _____
 Doctor number: _____ Normal Hemolyzed Icteric Lipemic
 Accession number: _____ Other: _____

Testing in Non-Pregnant Adults and Older Children (more than 1 year of age)

Patient Information: *Patient name and collection date must also appear on specimen label.*

Patient's Last Name: _____, First Name: _____ Birth date: _____ Gender: _____
 Patient ID#: _____ Specimen type: _____ Collection date: _____
 Physician's Name: _____ Phone: _____
 Physician's Address: _____ Fax: _____

History (important for proper interpretation of results)

<p>Immunocompromised <input type="checkbox"/> N <input type="checkbox"/> Y <input type="checkbox"/> HIV <input type="checkbox"/> AIDS CD4 count _____ <input type="checkbox"/> Other (please specify) _____</p> <p>Lymphadenopathy <input type="checkbox"/> N <input type="checkbox"/> Y Date of onset _____ Location of node(s) _____ ▶Please include a copy of biopsy report if performed</p> <p>Eye disease <input type="checkbox"/> N <input type="checkbox"/> Y Eye findings _____ <input type="checkbox"/> Bilateral <input type="checkbox"/> Unilateral <input type="checkbox"/> Macular involvement <input type="checkbox"/> Peripheral retinal disease</p> <p>Hepatitis <input type="checkbox"/> N <input type="checkbox"/> Y Date of onset _____ Liver Function Tests _____</p>	<p>Myocarditis and/or Polymyositis <input type="checkbox"/> N <input type="checkbox"/> Y Date of onset _____ Creatine Kinase (CK) _____ Myocardial enzymes _____</p> <p>Encephalitis <input type="checkbox"/> N <input type="checkbox"/> Y Date of onset _____ Other Please specify _____</p> <p>Symptoms <input type="checkbox"/> None <input type="checkbox"/> Fever <input type="checkbox"/> Flu-like symptoms <input type="checkbox"/> Other _____</p> <p>Risk Factor(s) (or exposure) <input type="checkbox"/> Ingestion of raw or undercooked meat <input type="checkbox"/> Cat feces <input type="checkbox"/> Gardening <input type="checkbox"/> None <input type="checkbox"/> Other _____</p> <p>Toxoplasma test results from other laboratory IgG: <input type="checkbox"/> Pos. <input type="checkbox"/> Neg IgM: <input type="checkbox"/> Pos. <input type="checkbox"/> Neg <input type="checkbox"/> Other (please specify) _____ ▶Please include a copy of the report if available</p>
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Recommended Tests

*For patients reported to have **positive IgM** results by another laboratory or suspected to have acute toxoplasmosis*

<input type="checkbox"/> IgG (Dye test), IgM ELISA, Avidity	\$516
<input type="checkbox"/> Reflex to other tests in the Toxoplasma Panel as indicated *	\$481
OR	
<input type="checkbox"/> IgG (Dye test), IgM ELISA	\$330
<input type="checkbox"/> Reflex to Avidity, and/or other tests in the Toxoplasma Panel as indicated *	\$667

For initial Toxoplasma serology screening

<input type="checkbox"/> IgG (Dye test), IgM ELISA	\$330
<input type="checkbox"/> Reflex to Avidity, and/or other tests in the Toxoplasma Panel as indicated *	\$667

Other Test Options

Individual tests

<input type="checkbox"/> IgG (Dye Test)	\$170
<input type="checkbox"/> IgM ELISA	\$175
<input type="checkbox"/> IgA ELISA	\$170
<input type="checkbox"/> AC/HS	\$186
<input type="checkbox"/> Avidity; for clinical recommendations IgG (Dye test) and IgM ELISA are required	\$186
<input type="checkbox"/> PCR (see PCR specimen requirements)	\$455
<input type="checkbox"/> Solid tissues (specimen type) _____	\$435
<input type="checkbox"/> Whole blood, other body fluids (specimen type) _____	\$627
<input type="checkbox"/> Isolation of <i>T. gondii</i> (specimen type) _____	

Panels

<input type="checkbox"/> Toxoplasma Panel (IgG (Dye test), IgM ELISA, IgA ELISA, IgE ELISA, AC/HS)	\$811
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*If parallel testing is indicated a \$70.00 per test charge will be added.

*Our TSL physicians will review results and select appropriate test(s) in the Toxoplasma Panel (IgG (Dye Test); IgM ELISA, IgA ELISA and IgE ELISA; AC/HS).

Client's Billing address (MUST be included. We cannot bill the patient or insurance.)

Results address

Attn:
PO# (if required for payment):

Attn:

Phone: _____ **Fax:** _____

Phone: _____ **Fax:** _____

E-mail: _____

Email: _____

Send to: Toxoplasma Serology Laboratory, PAMF Ames Building, 795 El Camino Real, Palo Alto, CA 94301
 Tel: (650) 853-4828 Fax: (650) 614-3292 Email: toxolab@pamf.org Web site: www.pamf.org/serology

For laboratory use only:

Customer number: _____
 Doctor number: _____
 Accession number: _____

Specimen condition:
 Normal Hemolyzed Icteric Lipemic
 Other: _____

Testing in Immunocompromised Patients

Patient Information: *Patient name and collection date must also appear on specimen label.*

Patient's Last Name: _____, First Name: _____ Birth date: _____ Gender: _____
 Patient ID#: _____ Specimen type: _____ Collection date: _____
 Physician's Name: _____ Phone: _____
 Physician's Address: _____ Fax: _____

History (important for proper interpretation of results)

Category of Immunosuppression

HIV AIDS CD4 count _____

Transplant

Bone Marrow HSCT
 Pre-Transplant Post Transplant
 Donor Recipient

Solid Organ Transplant

Heart Lung Kidney Liver Pancreas Bowel

Immunosuppressive Drugs

Corticosteroids Anti-TNF Drugs
 Other (please specify) _____

Cancer

Please specify Absolute Neutrophil Count _____
 Pre-Chemotherapy On Chemotherapy Post Chemotherapy

Symptoms None Fever Flu-Like symptoms

Other _____

Hepatitis N Y

Eye Disease N Y

Eye findings _____
 Bilateral Unilateral Macular involvement Peripheral retinal disease

Encephalitis N Y Date of onset _____

Pneumonia N Y Date of onset _____

Myocarditis and/or Polymyositis N Y Date of onset _____
 Creatine Kinase (CK) _____ Myocardial Enzymes _____

Toxoplasma test results from other laboratory IgG: Pos. Neg.
 IgM: Pos. Neg.

Other (please specify) _____

▶ Please include a copy of the report if available

Recommended Tests

IgG (Dye test), IgM ELISA, Avidity \$516
 Reflex to other tests in the Toxoplasma Panel as indicated* \$481

PCR in body fluids or tissue according to history and symptoms
 (see PCR specimen requirements)

Solid tissues (specimen type) _____ \$455

Whole blood, bronchoalveolar lavage fluid, vitreous fluid,
 other body fluids (specify) _____ \$435

Other Test Options

Individual tests

IgG (Dye Test) \$170
 IgM ELISA \$175
 IgA ELISA \$170
 AC/HS \$186
 Avidity: For clinical recommendations IgG (Dye test) and IgM ELISA are required \$186
 Isolation of *T. gondii* (specimen type) _____ \$627

Panel

Toxoplasma Panel \$811
 (IgG (Dye test), IgM ELISA, IgA ELISA, IgE ELISA, AC/HS)

*If parallel testing is indicated a \$70.00 per test charge will be added.

*Our TSL physicians will review results and select appropriate test(s) in the Toxoplasma Panel (IgG (Dye Test); IgM ELISA, IgA ELISA and IgE ELISA; AC/HS).

Client's Billing address (MUST be included. We cannot bill the patient or insurance.)

Results address

Attn: _____

Attn: _____

PO# (if required for payment): _____

Phone: _____ Fax: _____

Phone: _____ Fax: _____

E-mail: _____

Email: _____

Send to: Toxoplasma Serology Laboratory, PAMF Ames Building, 795 El Camino Real, Palo Alto, CA 94301
 Tel: (650) 853-4828 Fax: (650) 614-3292 Email: toxolab@pamf.org Web site: www.pamf.org/serology

For laboratory use only:

Customer number: _____
 Doctor number: _____
 Accession number: _____

Specimen condition:
 Normal Hemolyzed Icteric Lipemic
 Other: _____

Billing Information

GENERAL

Our laboratory will process your patient's specimen only if proper billing information is provided on billing portion of the requisition. Testing will not be performed until billing information is provided.

We cannot bill insurance or the patient directly. We can only bill the hospital, doctor or laboratory where specimen originated. Another option is for the patient to include a personal check, money order or credit card information (Visa or Mastercard) along with the specimen. These latter patients will receive a paid receipt after testing is completed. Please be aware, if your patient's payment does not clear or if there is a remaining balance, the ordering physician is responsible for all charges.

The Toxoplasma Serology Laboratory is a not-for-profit laboratory.

NEW YORK PHYSICIANS

New York State law prohibits us from billing New York State physicians directly. Therefore, all patients whose specimens are sent to us by a private physician must include a check, money order or credit card information (Visa or Mastercard). Specimens will only be held for two weeks if proper payment is not provided.

PAYMENT TERMS

Payment terms are net **30 days**. Past due accounts may be subject to collections by an agency of the Palo Alto Medical Foundation. **Please make checks payable to the Toxoplasma Serology Laboratory at the Palo Alto Medical Foundation.**

In order to ensure that your account is properly credited, the invoice number must be included and the address for remittance must include all of the following information:

**Toxoplasma Serology Laboratory
795 El Camino Real, Ames Building
Palo Alto, CA 94301**

DISCOUNT PRICING POLICY

Panels (see Test Information or Fee Schedule):

- IgG/IgM Toxo Panel
- Toxoplasma Pregnancy Panel (16 weeks gestation or earlier)
- Toxoplasma Pregnancy Panel (more than 16 weeks gestation)
- Toxoplasma Infant Panel (less than 6 months of age)
- Toxoplasma Panel (6 months of age or older)

All testing performed that add up to any Panel will be charged the discounted price while a Patient's case is still open. For urgent cases, we will attempt to contact client for authorization for further confirmatory testing (recommended by consulting physicians) twice via fax. If we do not receive authorization after two faxes, the results will be reported as final and the patient's case will be closed. **Once a final report has been generated, the client will be charged the full amount for each additional test(s).**

INSURANCE REIMBURSEMENT

Our laboratory is not a contracted provider for any health insurance carriers. We cannot directly bill any insurance company for our charges. We provide the following information to assist in submitting charges for reimbursement from insurance carriers:

CPT codes	CPT codes are listed in our invoice
ICD-10 codes	Toxoplasmosis (acquired), unspecified— B58.9 - With pneumonia— B58.3 - Congenital, active— P37.1 - With other organ involvement - B58.89 Maternal - Protozoal diseases complicating pregnancy, first trimester – O98.611 - Protozoal diseases complicating pregnancy, second trimester – O98.612 - Protozoal diseases complicating pregnancy, third trimester – O98.613 - Protozoal diseases complicating pregnancy, unspecified trimester – O98.619 - Protozoal diseases complicating childbirth – O98.62 - Protozoal diseases complicating the puerperium – O98.63 Newborn suspected to be affected by other maternal infectious and parasitic diseases (code to be used on the newborn record only – P00.2
Tax ID number	94-1156581

Fee Schedule 2018

(Effective 3/19/18)

<u>Individual tests</u>	<u>Prices / CPT codes</u>
IgG (Dye Test)	\$170 / 86777
IgM ELISA (6 months of age or older)	\$175 / 86778
IgM ISAGA (less than 6 months of age)	\$175 / 86778
IgA ELISA	\$170 / 86777-59
AC/HS	\$186/ 86406 (2 units)
IgE ELISA (Offered only as part of a panel and not as a single test)	\$165/ 86777-59
Avidity (For clinical recommendations IgG (Dye test) and IgM ELISA are required)	\$186 / 86777-59
See: Toxoplasma Pregnancy Panel (16 weeks gestation or earlier)	
PCR (amniotic fluid, cerebrospinal fluid, vitreous fluid, urine, whole blood, other body fluids)	\$435 / 87798
PCR (solid tissues)	\$455 / 87798
Isolation	\$627 / 87003
 <u>Panels</u>	
IgG/IgM Toxo Panel Includes: IgG (Dye Test), IgM ELISA	\$330 86777, 86778
Toxoplasma Pregnancy Panel (16 weeks gestation or earlier) Includes: IgG (Dye Test), IgM ELISA, Avidity	\$516 86777, 86778, 86777-59
Toxoplasma Pregnancy Panel (more than 16 weeks gestation) Includes: IgG (Dye Test), IgM ELISA, AC/HS	\$516 86777, 86778, 86406 (2 units)
Toxoplasma Infant Panel (less than 6 months of age) Includes: IgG (Dye Test), IgM ISAGA, IgA ELISA	\$495 86777, 86778, 86777-59
Toxoplasma Panel (6 months of age or older) Includes: IgG (Dye Test), IgM ELISA, IgA ELISA, IgE ELISA, AC/HS	\$811 86777, 86778, 86777-59, 86777-59, 86406 (2 units)

Note: If a previously tested specimen is indicated for parallel testing with a new sample, the fee for the old sample will be \$70.00 per test. The new sample will be charged the regular fee.

Test Information

IgG (Dye Test)

Reference range: negative <1:16; positive ≥1:16

Specimen: serum, CSF

Volume: 0.5 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777

Fee: \$170

Method Reference: Sabin AB, Feldman HA. Dyes as microchemical indicators of a new immunity phenomenon affecting a protozoan parasite (*Toxoplasma*). *Science* 108:660-663, 1948.

IgM ELISA (for patients 6 months of age or older)

Reference range: negative 0.0-1.6, equivocal 1.7-1.9, positive ≥ 2.0 (serum); negative 0.0-0.3, positive ≥ 0.4 (CSF)

Specimen: serum, CSF

Volume: 0.5 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86778

Fee: \$175

Method Reference: Naot Y, Remington J. An enzyme-linked immunosorbent assay for detection of IgM antibodies to *Toxoplasma gondii*: use for diagnosis of acute acquired toxoplasmosis. *J Infect Dis* 142:757-766, 1980

IgM ISAGA (for patients less than 6 months of age)

Reference range: reported as negative or positive

Specimen: serum

Volume: 0.5 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86778

Fee: \$175

Method Reference: Desmonts G, Naot Y, Remington JS. Immunoglobulin M immunosorbent agglutination assay for diagnosis of acute congenital and acquired toxoplasma infections. *J Clin Microbiol* 14:486-491, 1981

IgA ELISA

Reference range: negative 0.0-0.9, positive ≥ 1.0 (infants);
negative 0.0-1.4, equivocal 1.5-2.0, positive ≥ 2.1 (adults)

Specimen: serum

Volume: 0.5 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777-59

Fee: \$170

Method Reference: Stepick-Biek P, Thulliez P, Araujo F, Remington JS. IgA antibodies for diagnosis of acute congenital and acquired toxoplasmosis. *J Infect Dis* 162:270-273, 1990

AC/HS (Differential Agglutination)

Reference range: reported as non-acute pattern, equivocal pattern, acute pattern or non-reactive pattern
(refer to table, page 14)

Specimen: serum

Volume: 0.5 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86406 (2 units)

Fee: \$186

Method Reference: Danneman B, Vaughn W, Thulliez P, Remington JS. Differential agglutination test for diagnosis of recently acquired infection with *Toxoplasma gondii*. *J Clin Microbiol* 28:1928-1933, 1990

Test Information

IgE ELISA (offered only as part of a panel and not as a single test)

Reference range: reported as negative, equivocal or positive

Specimen: serum

Volume: 0.5 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777-59

Fee: \$165

Method Reference: Wong S, Hadju M, Ramirez R, Thulliez P, McLeod R, Remington JS. Role of specific immunoglobulin E in diagnosis of acute toxoplasma infection and toxoplasmosis. *J Clin Microbiol* 31:2952-2959, 1993

Avidity (For clinical recommendations IgG (Dye test) and IgM ELISA are required)

Reference range: high avidity excludes infection within the previous 4 months

Specimen: serum

Volume: 0.5 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777-59

Fee: \$186 (price does not include IgG (Dye test) and IgM ELISA)

Method Reference: Pelloux, H. et al. Determination of anti-*Toxoplasma gondii* immunoglobulin G avidity: adaption to the Vidas system (bioMérieux). *Diagn Microbiol Infect Dis* 32: 69-73, 1998

PCR

Reference range: reported as “*Toxoplasma gondii* DNA detected,” “*Toxoplasma gondii* DNA not detected,” or indeterminate

Specimen: (refer to PCR Specimen Requirements table)

Volume: (refer to PCR Specimen Requirements table)

Transport temperature: (refer to PCR Specimen Requirements table)

CPT code: 87798

Fee: \$435 (body fluids)
\$455 (solid tissues)

Method References: Grover C, Thulliez P, Remington J, Boothroyd J. Rapid prenatal diagnosis of congenital *Toxoplasma* infection by using polymerase chain reaction and amniotic fluid. *J Clin Microbiol* 28:2297-2301, 1990.

Parmley S, Goebel F, Remington JS. Detection of *Toxoplasma gondii* in cerebro-spinal fluid from AIDS patients by polymerase chain reaction. *J Clin Microbiol* 30:3000-3002, 1992

Isolation

Reference range: reported as negative or positive

Specimen: whole blood, amniotic fluid, placenta and other tissues

NOTE: Specimens must not be frozen or placed in formalin or other fixative. Inoculations are recommended within 48 hours of specimen collection date. Results available in six weeks.

Volume: 3 ml (fluids); 1 g (solid tissues)

Transport temperature: 2 – 8° C.

CPT code: 87003

Fee: \$627

Method Reference: Remington JS, McLeod R and Desmonts G. Toxoplasmosis. In *Infectious Diseases of the Fetus and Newborn Infant*, Fifth Edition. JS Remington, JO Klein, eds. W.B. Saunders Company, Philadelphia, 2001

Test Information

PANELS

IgG/IgM Toxo Panel:

- *IgG (Dye Test), IgM ELISA*

Specimen: serum

Volume: 0.5 to 1.0 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777, 86778

Fee: \$330

Toxoplasma Pregnancy Panel: (16 weeks gestation or earlier)

- *IgG (Dye Test), IgM ELISA, Avidity*

Specimen: serum

Volume: 2.0 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777, 86778, 86777-59

Fee: \$516

Toxoplasma Pregnancy Panel: (more than 16 weeks gestation)

- *IgG (Dye Test), IgM ELISA, AC/HS*

Specimen: serum

Volume: 2.0 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777, 86778, 86406 (2 units)

Fee: \$516

Toxoplasma Infant Panel: (less than 6 months of age)

- *IgG (Dye Test), IgM ISAGA, IgA ELISA*

Specimen: serum

Volume: 1.0 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777, 86778, 86777-59

Fee: \$495

Toxoplasma Panel: (6 months of age or older)

- *IgG (Dye Test), IgM ELISA, IgA ELISA, IgE ELISA, AC/HS*

Specimen: serum

Volume: 2.0 ml

Transport temperature: 2 – 8° C. (preferred); ambient or frozen (acceptable)

CPT code: 86777, 86778, 86777-59, 86777-59, 86406 (2 units)

Fee: \$811

Testing Schedule

ROUTINE TEST SCHEDULE

Serology tests: Specimens received by noon (Pacific Time) on Monday and Wednesday will be tested that day. Verbal results are available by 3 p.m. (Pacific Time) the following day.
IgG (Dye Test), IgM ELISA, IgM ISAGA, IgA ELISA, IgE ELISA, AC/HS, Avidity

Specimens received by noon (Pacific Time) on Thursday will be tested for IgG (Dye Test), IgM ELISA, and Avidity only that day. Verbal results are available by 3 p.m. (Pacific Time) the following day.

PCR: Specimens received by noon (Pacific Time) on Tuesday will have verbal results available Wednesday by 4 p.m. (Pacific Time). Specimens received by noon (Pacific Time) on Friday will have verbal results available Monday by 4 p.m. (Pacific Time).

Serology/PCR Final reports will be available approximately 5 business days from the date the sample was received except on holidays. However, reports for samples with missing billing information or requiring history or test clarification may take longer. Reports for results requiring consultation will not be available until the reporting cycle following consult completion.

To ensure the quality of results, repeat testing is sometimes required. This may delay reporting of results.

Isolation: Final results are available approximately six weeks from the date received.

HOLIDAY TEST SCHEDULES

For a current list of applicable holidays and test schedule modifications, please see:
<http://www.pamf.org/serology/schedule.html>

To ensure specimen integrity, we recommend specimens are not shipped for delivery on weekends or holidays

Business hours: 8 a.m. – 4:00 p.m. Pacific Time, Monday – Friday.

Closed weekends and holidays.

PCR: Instructions

General Instructions

Specimen Types and Requirements: [See PCR Specimen Requirements](#)

Shipment: Send specimens for PCR testing to this address:
Toxoplasma Serology Laboratory
Attention: PCR
PAMF Ames Building
795 El Camino Real
Palo Alto, CA 94301

Ship each sample for PCR testing in a separate sealed bag from other samples. All samples received for PCR testing will be prepared for testing, and **will not be suitable for return.**

A **serum specimen for serologic testing** must accompany PCR test requests for any patient not recently tested in our laboratory in order for our medical consultant to interpret results. The minimum request for serologic testing must include IgG and IgM. There is an additional charge for testing this serum.

Amniotic Fluid

It is recommended that amniocentesis for toxoplasmosis PCR be performed at a **minimum of 18 weeks gestation.** A serum sample from the mother must accompany the amniotic fluid in order for our medical consultant to interpret results, unless she has been previously tested in our laboratory, during the same pregnancy.

Specimen: DNA for our PCR procedure is obtained from pelleted amniotic fluid.

Recommended volume: 10 ml

Shipment: Ship amniotic fluid on wet ice or cold packs sufficient to maintain temperature of 2 – 8° C. during shipment; frozen acceptable (include enough dry ice to keep specimen frozen during shipment).

Cerebrospinal, vitreous, or aqueous fluid:

Specimen: A serum sample from the patient must accompany the fluid in order for our medical consultant to interpret results, unless serum has been previously tested in our laboratory in the recent past.

Recommended volume: 0.5 ml ocular fluid, 1.0 ml CSF

Shipment: Freeze sample immediately after collection. Ship sample on dry ice by overnight courier. Include enough dry ice to keep specimen frozen during shipment.

PCR Validated Specimens

The following samples have been validated for testing in our laboratory:

- Amniotic fluid
- Cerebrospinal fluid (CSF)
- Ocular fluids
- Whole blood
- Urine
- Bronchoalveolar lavage (BAL)
- Solid tissues
- Serum

PCR Reports

PCR results will be reported as follows:

- “*Toxoplasma gondii* DNA not detected.”
- “*Toxoplasma gondii* DNA detected.”

Preferred Conditions for Processing, Storing, and Shipping Specimens for PCR Testing¹

SPECIMEN TYPE	SPECIMEN AGE	SHIPPING CONDITIONS	MINIMUM VOLUME ¹	RECOMMENDED VOLUME ¹
Amniotic fluid (collected at ≥18 weeks gestation)	Up to one month when stored refrigerated; indefinite when stored frozen	2 – 8° C on ice or cold packs preferred; frozen acceptable; overnight delivery	3 ml	10 ml
BAL	Up to one month when stored refrigerated; indefinite when stored frozen	2 – 8° C on ice or cold packs; frozen acceptable; overnight delivery	3ml	10 ml
CSF	Up to one month when stored refrigerated; indefinite when stored frozen	Frozen preferred; 2 – 8° C on ice or cold packs acceptable; overnight delivery	0.4 ml	1 ml
Ocular fluids (vitreous and aqueous)	Up to one month when stored refrigerated; indefinite when stored frozen	Frozen preferred; 2 – 8° C on ice or cold packs acceptable; overnight delivery	0.1 ml	0.5 ml
Serum	Up to one month when stored refrigerated; indefinite when stored frozen	Frozen preferred; 2 – 8° C on ice or cold packs acceptable; overnight delivery	1 ml	5 ml
Whole blood Bone marrow	Up to 2 days (DO NOT FREEZE)	EDTA or citrate tube; 20 – 25° C preferred; overnight delivery	1 ml	5 ml
Urine	Up to one week when stored refrigerated; indefinite when stored frozen	2 – 8° C on ice or cold packs preferred; frozen acceptable; overnight delivery	6 ml	10 ml
Solid tissues	Up to 24 hours when stored refrigerated; indefinite when stored frozen; NO preservatives	Frozen preferred; 2 – 8° C on ice or cold packs acceptable; overnight delivery	25 mg	50 mg

¹ The Toxoplasma Serology Laboratory will test specimens that deviate from these conditions. However, sensitivity might be compromised. Please contact our laboratory at (650) 853-4828 for any questions about testing specimens that do not conform to these conditions.

Isolation Instructions

General Instructions

Specimen Types and Requirements: Whole blood (EDTA or Citrate preferred), amniotic fluid, CSF and other body fluids, placenta and other tissues

Shipment: Send specimens for Isolation testing to this address:
Toxoplasma Serology Laboratory

Attention: Isolation
PAMF Ames Building
795 El Camino Real
Palo Alto, CA 94301

Ship each sample for Isolation testing in a separate sealed bag from other samples. All samples received for Isolation testing will be prepared for testing, and **will not be suitable for return.** **Note: Isolation is a costly and labor intensive procedure. Once started, it may not be cancelled.**

NOTE: Specimens must **NOT** be frozen or placed in formalin or other fixative. Inoculation for isolation is recommended within **48 hours of specimen collection date.** Results available in six weeks.

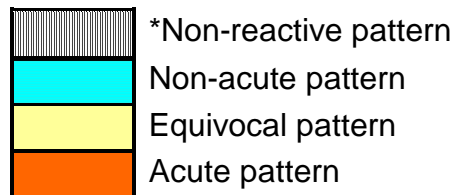
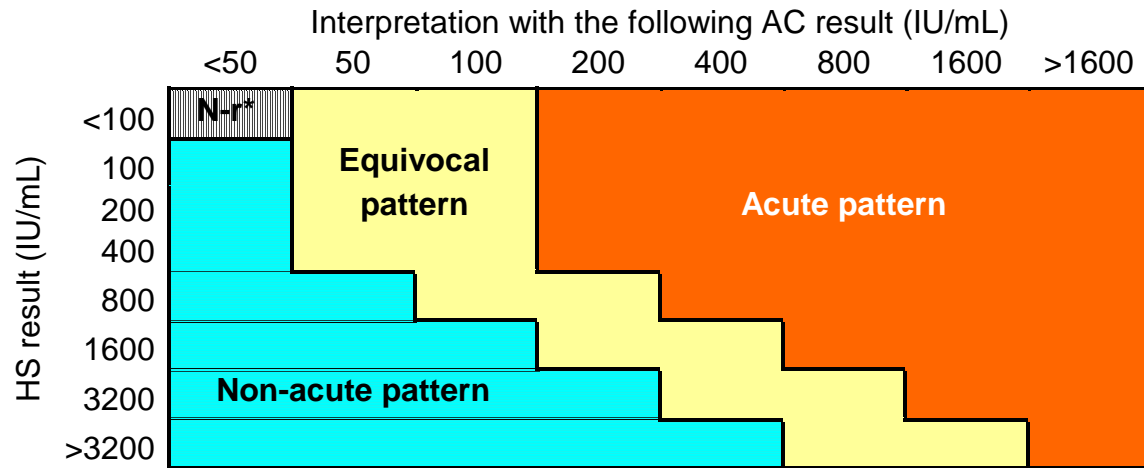
Preferred Conditions for Processing, Storing, and Shipping Specimens for PCR Testing¹

SAMPLE TYPE	STORAGE	SHIPPING CONDITIONS	MINIMUM VOLUME ¹	RECOMMENDED VOLUME ¹
Amniotic Fluid, CSF and other body fluids	Store sterilely, keep cool (NOT FROZEN) with ice bag or frozen cold packs.	2 – 8° C on ice or cold packs preferred; overnight delivery; DO NOT FREEZE	1 ml	3 ml
Whole Blood (EDTA, citrate, ACD tubes preferred; clot tubes (red top) accepted)	Keep cool (NOT FROZEN) with ice bag or frozen cold packs.	2 – 8° C on ice or cold packs preferred; overnight delivery; DO NOT FREEZE	1 ml	3 ml
Placenta	Store sterilely in sterile saline (NO FORMALIN OR OTHER PRESERVATIVE, DO NOT FREEZE). Penicillin (100 units per ml) and Streptomycin (100µgm/ml) or gentamicin (10- 40 mg/ml) should be added. Keep cool (NOT FROZEN) with ice bag or frozen cold packs.	2 – 8° C on ice or cold packs preferred; overnight delivery; DO NOT FREEZE	1g*	5g
Other Tissues	Store sterilely in sterile saline (NO FORMALIN OR OTHER PRESERVATIVE, DO NOT FREEZE). Keep cool (NOT FROZEN) with ice bag or frozen cold packs.	2 – 8° C on ice or cold packs preferred; overnight delivery; DO NOT FREEZE	1g*	5g

¹ The Toxoplasma Serology Laboratory may test specimens that deviate from these conditions with client authorization. However, sensitivity might be compromised. Please contact our laboratory at (650) 853-4828 for any questions about testing specimens that do not conform to these conditions.

*Please note: smaller amounts of some tissues are accepted due to accessibility and difficulty of collection

AC/HS Interpretation Criteria



*Palo Alto Medical Foundation/Research Institute
Toxoplasma Serology Laboratory*

CREDIT CARD PAYMENT

PAMF only accepts Visa or Mastercard

Patient Name: _____, _____ **Customer #:** _____
Last Name First Name

Name of Card Holder: _____, _____
Last Name First Name

Billing Address: _____ **Contact #:** (____) _____ - _____
of Card Holder

_____, _____
City State Zip Code

Card Type: VISA # _____ **CVV#:** _____ **Exp. Date:** ____/____/____
Card Number Last 3 digits behind card

MASTERCARD # _____ **CVV#:** _____ **Exp. Date:** ____/____/____
Card Number Last 3 digits behind card

Amount of Payment: \$ _____

Request Receipt: YES NO

Invoice #:

Amount:

Total Amount Paid: \$ _____

Name: _____ **Date:** _____
Initials of person handling transaction Date of Transaction
(For Toxoplasma Serology Laboratory Employee)

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