

Your Partners in Parasitology and Mycology



LDBIO Diagnostics Western Blot

Reference IMMUNOBLOTS

for Serology Confirmation

LDBIO Diagnostics ICT

Lateral flow RAPID TESTS

for Serology Screening

Visit our website www.ldbiodiagnostics.com

LDBIO Diagnostics meets the requirements of the new European regulation.
All our products will be maintained and remain available.

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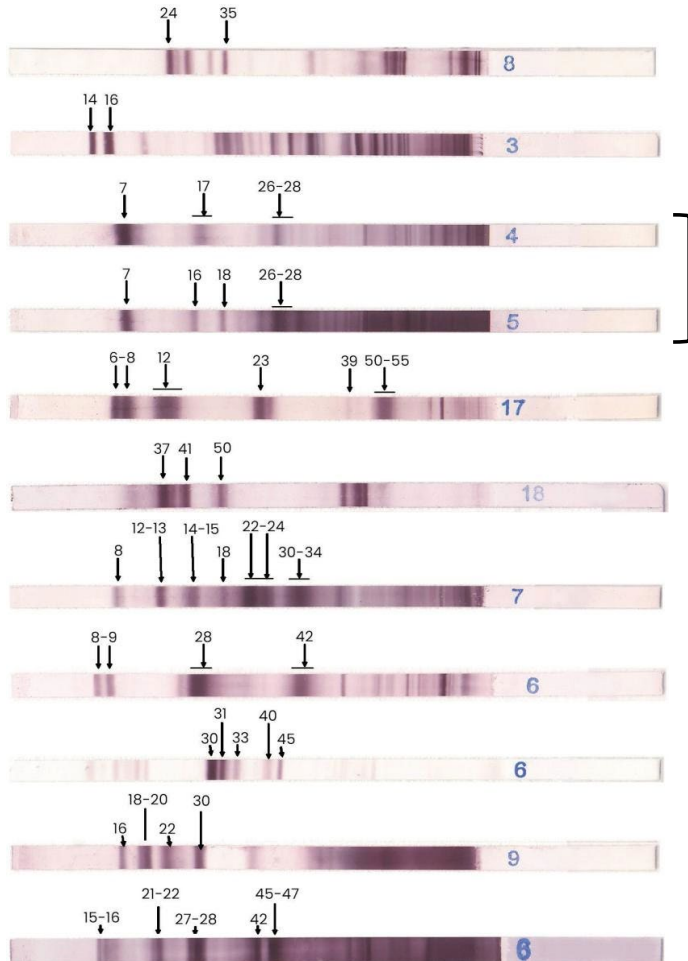
 **QUADRATECH
DIAGNOSTICS**



IMMUNOBLOTS

COMMON REAGENTS • COMMON PROCEDURE
 READY FOR USE • AUTOMATABLE • RELIABLE

IgG SEROLOGY CONFIRMATION



TOXOCARA WB IgG

LEISHMANIA WB IgG

ECHINOCOCCUS WB IgG

CYSTICERCOSIS WB IgG

TRICHINELLA ES WB IgG

SCHISTO II WB IgG

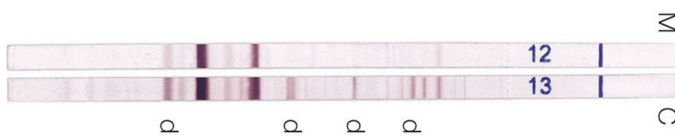
FASCIOLA ES WB IgG

TOXO II WB IgG

ASPERGILLUS WB IgG

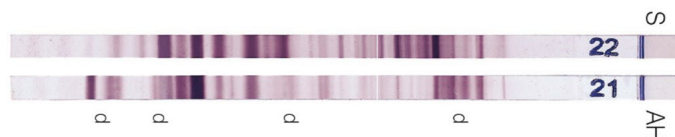
CHAGAS WB IgG

CONGENITAL TOXOPLASMOSIS DIAGNOSIS AT BIRTH



CIP WB between Mother's (M) and Child's (C) serum. Additional bands (d) are present on the child's strip: the test is positive.

OCULAR TOXOPLASMOSIS DIAGNOSIS



CIP WB between Serum (S) and Aqueous Humor (AH). Additional bands (d) are present on the AH strip: the test is positive.



RAPID TESTS

SIMPLE • ROBUST • NO WATER • NO ELECTRICITY



ASPERGILLUS ICT IgG-IgM

Sensibility 90.9 %
Specificity 96.3%



SCHISTOSOMA ICT IgG-IgM

Sensibility 95.8 %
Specificity 92.4 %



TOXOPLASMA ICT IgG-IgM

Sensibility 99.3 %
Specificity 100 %

Performances of ICT Toxoplasma IgG-IgM test in comparison with Vidas Toxo Competition to determine the immune status of patients against *Toxoplasma gondii*.

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Keywords: Toxoplasmosis, immunochromatographic test, serology

Toxoplasmosis is a ubiquitous parasitosis caused by *Toxoplasma gondii* (Tg). In immunocompetent people, the infection is usually asymptomatic with the induction of a protective immune response. In immunocompromised patients or seronegative pregnant woman infected during pregnancy, the infection may be more severe.

The objective of the study was to evaluate the place of a new immunochromatographic test, Toxoplasma ICT IgG-IgM (LDBio Diagnostics), in the diagnostic strategy. This test allows the detection of anti-Tg immunoglobulins G (IgG) and M (IgM) simultaneously.

We included 1145 prospective sera and 380 samples selected for their specificity or sensitivity. Specificity study included sera with biological markers of other disease, and samples with false positive results with Architect IgG or IgM Tg technique. Sensitivity study included samples from immunocompromised patients, and sera from patients with an old or recent infection. The performance of the ICT was evaluated in comparison with Vidas Toxo Competition (Biomérieux) and Toxoscreen (Biomérieux). In case of discrepancy, the Vidas Toxo IgG and IgM II and Western Blot Toxo II IgG were performed to determine the immune status.

The sensitivity of Toxoplasma ICT was 99,3% with a specificity of 100%. In comparison, the sensitivity of Toxoscreen was 100% with a specificity of 99,8%. The sensitivity of Toxo Competition was 98,7% with a specificity of 99,1%. The performance of ICT was excellent even for low IgG titers, especially in immunocompromised patients, and for confirmation of the specificity of IgM against Tg in case of isolated IgM.

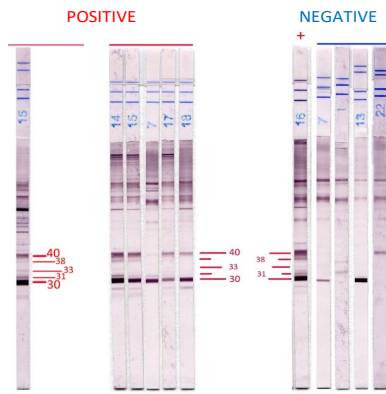
This ICT allows to obtain results easily and quickly. This test would permit screening of patients or confirm a serology result. Unfortunately, this technique does not allow the kinetics of antibody titers, nor to differentiate IgM from IgG. If the test is positive, additional tests could be necessary.

ECCMID congress. 2022.

WESTERN BLOT LDBIO TOXO II IgM®

NEW

Toxoplasma seroconversion / non-specific IgM differentiation



Interpretation

The presence on the strip of a **minimum of 2 bands out of specific bands P30, P31, P33, P38 and P40, AND the inclusion of the band P30 kDa**, allows the assay to be interpreted as positive and to conclude that anti-*T. gondii* IgM antibodies are present in the tested sample.

P30 and P40 are the most frequent bands in case of mild positive IgM serology result.

Performances¹

The leftover of laboratory samples stored after clinical diagnosis of 234 sera corresponding to 96 toxoplasmic seroconversions (2 to 3 sera/patient) and 169 sera corresponding to 69 patients with cross reactions and/or non-specific IgM (1 to 3 sera/patient) were retrospectively analysed. All the patients had a documented seroconversion with the last IgG /IgM negative to the first IgG /IgM positive or a false positive result without seroconversion as previously analysed in the different laboratories with panel of different serological techniques.

Seroconversions (N=96)	Western Blot IgM	
	Positive	Négative
False positives IgM (N=69)	9	60

Performances in confirmation of seroconversion and IgM cross-reaction:

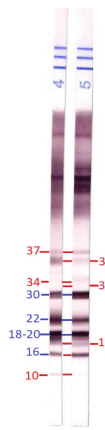
Se = 100% (IC95 [96.2-100%])
Sp = 86.7% (IC95 [76.7-93.9%])

¹ Diagnostic accuracy of Toxoplasma Western Blot test in suspected seroconversion in pregnancy: a multicentric study. Valeria Meroni, Alfonso Corcione, Luigia Scudeller, Marie-Pierre Brenier-Pinchart, Hélène Fricker-Hidalgo, Coralie L'Ollivier, Hervé Pelloux, Luc Paris. 6th Internal Congress Of Congenital Toxoplasmosis. 2019.

A. FUMIGATUS WESTERN BLOT IgE®

NEW

Aspergillus sensitization and ABPA immunoblot diagnosis



Interpretation

The profile is split into :

- **B16, B18-20, B22 and B30 = major bands.**
- Other bands in the < 37 kDa area (**B10, B17, B33, B34, B36, B37**) = **minor bands.**

→ The **sensitisation** profile is defined by the presence of **at least 2 major bands.**

→ The **ABPA** profile is defined by the presence of **at least 2 major bands + at least 2 minor bands.**

Performances²

A study was conducted in a laboratory with expertise in the diagnosis of ABPA. It included 229 sera positive for specific IgE anti-Aspergillus by CLIA technique. Of the samples, 23 were from patients with ABPA.

	Positive WB	Negative WB	Total
CLIA 0.35-2 UA/ml	62	79	141
CLIA >2 UA/ml	85	3	88
Total	147	82	229

The presence of at least two major bands, indicating WB positivity, was found in 147 samples (64%, 95CI [58-70%]) including all ABPA. The sensitivity of the test was 97% (85/88, 95CI [90-99%]) at 2 AU/ml threshold.

	ABPA profile	Sensitization profile	Negative	Total
ABPA	22	1	0	23
Sensitization	14	110	82	206
Total	36	111	82	229

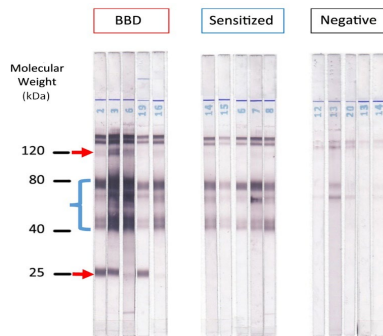
For the differential diagnosis between ABPA and sensitization, the ABPA profile (presence of 2 major bands + 2 other bands of molecular weight < 37 kDa) was found in 22/23 ABPA and was absent in 192/206 sensitizations. The sensitivity and specificity of the profile were therefore 96% (95CI [76-99%]) and 93% (95CI [89-96%]), respectively.

² Interest of *Aspergillus fumigatus* Western Blot assay for differential diagnostic between IgE sensitization and Allergic Broncho Pulmonary Aspergillosis. Raphaël Piarroux, Jean-Christophe Dubus, Martine Reynaud-Gaubert, Marion Gouitaa, Stéphane Ranque, Joana Vitte. 9th Trends in Medical Mycology. 2019.

PEO WESTERN BLOT IgG®

NEW

Bird Breeders' Lung Disease immunoblot diagnosis



Interpretation

- The simultaneous presence of the bands **P40-80** and **P25** or **P120** is indicative of bird-breeder's lung disease.
- The simultaneous presence of the bands **P40-80** is indicative of **sensitization**.

Performances³

The evaluation included two complementary cohorts of patients:

- A prospective cohort of 185 sera characterized by an automated screening technique in a specialized biology laboratory and whose positives were sent for confirmation to a bird-breeder's disease EAA diagnosis reference laboratory (16 BBD, 5 sensitized, 164 negative).
- A complementary cohort of characterized sera from the same reference laboratory of 63 sera (38 BBD, 10 sensitized, 15 negative).

Patients	Profiles of PEO WB IgG (N=248)		
	BBD	Sensitized	Negative
BBD (N=54)	45	7	2
Sensitized (N=15)	2	2	11
Negative (N=179)	15	23	141

The BBD profile allowed the correct identification of 45/54 BBD patients, while allowing the exclusion of 177/194 of the other samples. Its sensitivity was therefore 83.3% (CI95 [70.2-91.6%]) and its specificity 91.2% (CI95 [86.1-94.7%]).

³ Evaluation of a rapid screening test (PEO ICT IgG IgM) and a confirmatory test (PEO WB IgG) for the serological diagnosis of bird breeders' lung disease. Serine Reguig^{1,2}, Raphaël Piarroux¹, Lise Siard³, Antoine Huguenin^{4,5}, Régine Geers^{4,5}, Dominique Aubert^{4,5}, Christine Bouz², Denis Limonne¹, Isabelle Villena^{4,5}.

PEO ICT IgG-IgM®

NEW

Bird Breeders' Lung Disease rapid test screening



Interpretation

The reading must be done between 20 and 30 minutes after starting the timer.

- **Positive test:** 2 lines, a black "T" and a blue "C" appear in the corresponding areas.
- **Negative test:** No black line appears. Only the blue "C" line is visible.
- **Invalid test:** The "C" line does not appear.

Performances⁴

The evaluation included two complementary cohorts of patients:

- A prospective cohort of 185 sera characterized by an automated screening technique in a specialized biology laboratory and whose positives were sent for confirmation to a reference laboratory for Bird-Breeder's lung disease diagnosis (16 BBD, 5 sensitized, 164 negative).
- A complementary cohort of 63 characterized sera from the same reference laboratory (38 BBD, 10 sensitized, 15 negative).

Patients	PEO ICT IgG-IgM (N=248)	
	Positive	Negative
BBD (N=54)	48	6
Sensitized (N=15)	6	9
Negative (N=179)	26	153

LDBIO PEO ICT IgG-IgM was positive in 54/69 samples, 48/54 of which were BBD, while being negative in 153/179 negative samples. Its sensitivity is therefore 78.3% (CI95 [66.4-86.9%]) for all positives and 88.9% (CI95 [76.7-95.4%]) for BBD patients. Its specificity is 85.5% (CI95 [79.2-90.1%]).

New LDBIO PEO tests global performances (ICT+WB):

PEO ICT IgG IgM and **PEO WB IgG** have a high level of performance and offer a new approach for the screening and confirmation of BBD and sensitized patients.

The combined use of these two techniques, screening by ICT and confirmation by WB, has a sensitivity of 87.5% and a specificity of 90.8% in the diagnosis of BBD.

⁴ Evaluation of a rapid screening test (PEO ICT IgG IgM) and a confirmatory test (PEO WB IgG) for the serological diagnosis of bird breeders' lung disease. Serine Reguig^{1,2}, Raphaël Piarroux¹, Lise Siard³, Antoine Huguenin^{4,5}, Régine Geers^{4,5}, Dominique Aubert^{4,5}, Christine Bouz², Denis Limonne¹, Isabelle Villena^{4,5}. SFP-SFMM congress. 2022.

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