



**Biogal – Galed Labs.**

Kibbutz Galed, 19240, Israel

Tel: 972-4-9898605 · Fax: 972-4-9898690

E-mail: [info@biogal.co.il](mailto:info@biogal.co.il) · Site: [www.biogal.co.il](http://www.biogal.co.il)

---

## Product Information (30.10.07)

**Name of Kit:** **ImmunoComb<sup>®</sup> Feline Toxoplasma & Chlamydophila Antibody Test Kit**

**Catalog No:** 50FTC201/ 50FTC210

**No of Tests:** Standard Size: 12 samples X 2 antigens = 24 Tests  
Lab Size: 120 samples X 2 antigens = 240 Tests

**Intended Use:** The ImmunoComb<sup>®</sup> Feline Toxoplasma and Chlamydophila (Chlamydia) Antibody Test Kit measures serum IgG antibody levels to Toxoplasma and Chlamydophila (Chlamydia) in cats. It is designed to monitor *Chlamydophila sp.* infections and assist in the diagnosis of clinical cases of Toxoplasmosis.

**Note:** Toxoplasma carries with it a public health consideration. Cats during the early stages of infection shed oocysts in their feces. These oocysts have been known to cause abortions in women during the first trimester of pregnancy. Level of IgG antibodies can be indicative of the stage of the disease in cats and therefore can be used as a gauge for shedding.

**Diagnostic Method:** The ImmunoComb<sup>®</sup> test is based on solid phase "dot"-ELISA technology. Feline *Toxoplasma gondii* antigen is applied to the lowest spot on a comb-shaped plastic card. (The Comb is the solid phase and has 12 teeth-sufficient for 12 test samples.) The middle spot is the second test-spot, where feline *Chlamydophila sp.* (*Chlamydia sp.*) antigen is applied, and the uppermost spot is the positive reference spot.

The samples to be tested are mixed with diluent in the first row of wells of a multi-chamber developing plate. The Comb is then incubated with the samples in the developing plate. Specific IgG antibodies from the samples, if present, bind to the antigens at the test spots.

The Comb is then transferred to a well, where unbound antibodies are washed from the antigens spots. In the next step, the Comb is allowed to react with an anti-cat IgG Alkaline Phosphates conjugate, which will bind to antigen-antibody complexes at the test spots. After 2 more washes, the Comb is moved to the last well, where a color result develops via an enzymatic

reaction. The intensity of the color result of test spots corresponds directly to the antibody level in the test sample.

<b><i>T. gondii</i>:</b>	<b>Specificity:</b> 100%	<b>Sensitivity:</b> 92.3%
<b><i>Chlamydophila sp.</i>:</b>	<b>Specificity:</b> 100%	<b>Sensitivity:</b> 94.7%

### **Pathophysiology:**

#### **Toxoplasma**

Toxoplasmosis is an infectious disease affecting a wide range of animals and man. The etiologic agent is a protozoal parasite named *Toxoplasma gondii*.

Toxoplasma is spread by ingestion of oocysts, which may be found in the environment, or in the muscle tissues of an infected animal. Infected cats are considered to be the natural reservoir of *T. gondii*. Infections in all species are usually asymptomatic. In cats, ingestion of oocysts is initially followed by an enteric stage when parasite replication occurs and unsporulated oocysts are shed in the feces. This period generally lasts for 1-3 weeks and is regarded to be the highest risk for transmission to humans. Following this stage, the parasite leaves the intestine. The animal may remain latently infected with cysts in various tissues in the body; such as muscle, or go on to develop clinical disease. Kittens and immune-compromised cats are at greater risk for developing clinical disease.

#### **Chlamydophila (Chlamydia)**

The role of *Chlamydophila sp.* in feline ocular-nasal and respiratory tract infections is well recognized. Experimental data suggest that the organism may also cause reproductive disorders in cats due to genital infection. Some feline strains of *Chlamydophila sp.* have also been associated with conjunctivitis in humans.

**Preferred Method of Diagnosis:** Serology (measuring serum antibody levels) is the preferred method for monitoring Feline Toxoplasma and Chlamydophila infections and may help in the diagnosis of these diseases when used together with other clinic pathological data.

#### **Main Applications:**

- (1) Cats with Toxoplasmosis or Chlamydophila disease typically have high levels of specific antibodies. Therefore, a sero-negative result to *T. gondii* and *Chlamydophila sp.* in an ill cat helps rule out the diagnosis of these two infections.
- (2) Antibody testing may be used to screen for the presence of Toxoplasma and Chlamydophila infections in cats before they are introduced into pathogen-free households or catteries.

**Interpretation:** The level of antibodies (i.e., antibody titer) is determined according to the intensity of the test color result. Thus, no or a light grey color indicates no (negative) or low level of antibodies. Higher levels of antibodies are indicated by darker color results. For the ImmunoComb<sup>®</sup> Feline

Toxoplasma and Chlamydomphila Antibody Test Kit a reference spot on each Comb tooth (top spot) has been calibrated to develop a distinct grey color. This is the same color that is generated by a medium positive result, which is considered to be the 'cut-off' value of a significant antibody titer.

### Interpretation of Results

#### *Toxoplasma gondii*

<b>CombScale Value</b>	<b>Result</b>	<b>Interpretation</b>	<b>Recommendation</b>
0	Negative	Undetectable antibody levels to <i>T. gondii</i> .	Rule out enteric infection by fecal exam for oocysts and periodic IC retesting.
1-2	Suspicious	No significant serologic evidence of <i>T. gondii</i> infection.	Rule out enteric infection by fecal exam for oocysts and periodic IC retesting.
3-4	Positive	Serologic confirmation of <i>T. gondii</i> infection.	Routine health monitoring, including fecal exam to rule out reshedding of oocysts.
5-6	High Positive	Serologic confirmation of <i>T. gondii</i> infection; considered immune.	Routine health monitoring, including fecal exam to rule out reshedding of oocysts.

#### *Chlamydomphila sp. (Chlamydia sp.)*

<b>CombScale Value</b>	<b>Result</b>	<b>Interpretation</b>	<b>Recommendation</b>
0	Negative	Undetectable antibody levels to <i>C. sp.</i>	Routine health monitoring.
1-2	Suspicious	No significant serologic evidence of <i>C. sp.</i> infection.	Retest in 10-14 days to evaluate possible seroconversion.
3-4	Positive	Serologic confirmation of <i>C. sp.</i> infection.	Treat accordingly.
5-6	High Positive	Serologic confirmation of <i>C. sp.</i> infection.	Treat accordingly.

**References:**

Bowen, D. D. (2003). Update on Feline Parasitology, in Ettinger's Insights in Internal Medicine, **Vol. 1 (3)**. Veterinary Learning Systems, Yardley: PA.

Lappin, M. R. (1993). Immunodiagnosis and management of clinical feline toxoplasmosis. *TNAVC Veterinary Technician Proceedings*, pp. 40-44.

Lappin, M. R., Greene, C. E., Prestwood, A. K., Dawe, D. L. and Tarleton, R. L. (1989). Enzyme-linked immunosorbent assay for the detection of circulating antigens of *toxoplasma gondii* in the serum of cats. *Am J Vet Res*, **50 (9)**, 1586-1590.