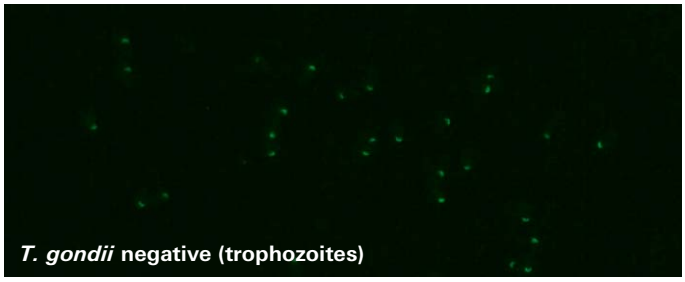
Anti-Toxoplasma gondii IIFT Dog (IgG)


T. gondii positive (trophozoites)


T. gondii negative (trophozoites)

- **Comprehensively validated test for the detection of *Toxoplasma gondii*-specific antibodies in dogs**
- **Efficient automation solutions**

Technical data

Antigen substrate	*Toxoplasma gondii* trophozoites
Sample dilution	Canine serum or plasma
	Qualitative evaluation: 1:100
	Semiquantitative evaluation: 1:10/100/1000 etc.
Reagents	Ready for use, with the exception of the PBS-Tween buffer (for dilutions and washing steps)
Test procedure	30 min (sample) / 30 min (conjugate), room temperature
Microscopy	Objective 40x
	Light source: EUROIMMUN LED or mercury vapour lamp, 100 W
	Excitation filter: 488 nm, colour separator: 510 nm, blocking filter: 520 nm
Stability	All kit components are stable for at least 18 months from the date of manufacture
Test kit format	10 slides, each containing 5 or 10 test fields; kit includes all necessary reagents
Order no.	**FI 2410-1005 GC**
	FI 2410-1010 GC

Clinical significance

Toxoplasmosis is a zoonosis which occurs worldwide and is caused by the sporozoon *Toxoplasma (T.) gondii*. All warm-blooded animals can become infected with *T. gondii*. The asexual reproduction of *T. gondii* can take place in the most diverse tissues of the warm-blooded intermediate hosts. The only final hosts are cats or other felidae, in whose intestine the sexual reproduction takes place. This leads to the formation of oocysts which are secreted into the environment with the cat's faeces.

Dogs mostly become infected by ingesting raw meat containing tissue cysts or oocyst-containing cat faeces. Moreover, it was shown in dogs that the parasites can also be transmitted via sperm or transplacentally. *T. gondii* infections in dogs proceed asymptomatically in most cases. However, a severe clinical toxoplasmosis may develop particularly in young dogs, which may lead to death. Depending on the affected tissue, different clinical symptoms appear, such as fever, hepatitis or pneumonia. *T. gondii* parasites often attack the brain and lead to CNS symptoms which may vary from mild paresis to seizures.

In addition to its clinical relevance, canine toxoplasmosis is an important zoonosis. Humans are generally infected perorally by ingestion of water or food contaminated with oocysts or from meat products (the raw meat of infected animals contains cysts with viable trophozoites). As final hosts, cats secrete oocysts with their faeces and thus spread them in the environment. However, also dogs can be mechanical vectors, since they tend to ingest cat faeces. Oocysts ingested in this way may pass through the dog's intestine unchanged and be secreted into the environment. Also by rolling in cat faeces may the dog's fur become contaminated with oocysts, which are then passed on. The parasites become infectious after 2 to 4 days in the environment and can perorally infect humans or warm-blooded animals.

Application

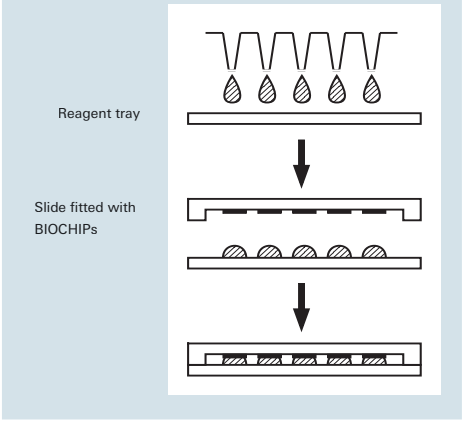
Owing to the variety of possible symptoms, the clinical picture is not very characteristic. In cases of suspected toxoplasmosis, the determination of specific antibodies in serum or plasma by IIFT, ELISA, or agglutination assay is the method of choice to confirm an infection. A positive IgG antibody result indicates an infection. Since *Toxoplasma* cysts, and therefore IgG antibodies, persist lifelong, an acute infection can only be diagnosed by the detection of IgM antibodies or by a fourfold increase in the IgG titer in a follow-up sample taken after 2 to 4 weeks. IgM antibodies are generally detectable from 2 to 16 weeks after infection. Specific IgG is exhibited 3 to 4 weeks after infection and probably persists lifelong. The pathogen can also be detected directly by nucleic acid analysis (PCR) during acute disease, whereby it is important that the appropriate sample material is used depending on the symptoms, for example cerebrospinal fluid, aborted material or tissue.

Test principle and procedure

This test kit is designed exclusively for the in vitro determination of canine antibodies in dog serum or plasma. The determination can be performed qualitatively or quantitatively. BIOCHIPs coated with *Toxoplasma gondii* trophozoites are incubated with diluted samples. In case of positive reactions, specific antibodies of the class IgG will bind to the antigens. In a second step, the attached antibodies are stained with fluorescein-labelled anti-dog antibodies and made visible using the fluorescence microscope.

Slides with EUROIMMUN BIOCHIPs are incubated using the TITERPLANE Technique, which enables multiple samples to be incubated next to each other and simultaneously under identical conditions. Incubation of the substrates with the positive and negative controls provided in each kit verifies correct performance of the test and aids evaluation.

Incubation with the TITERPLANE Technique



Reference range

Titer < 1:100

Sensitivity and specificity

For the determination of sensitivity and specificity, 42 canine sera were investigated using the EUROIMMUN Anti-Toxoplasma gondii IIFT Dog (IgG). The sera were precharacterised with an in-house IIFT. The results were compared and yielded a sensitivity of 72 % and a specificity of 92 %.

A further 5 canine sera from Belgium were investigated with the EUROIMMUN Anti-Toxoplasma IIFT Dog (IgG). The sera were precharacterised with a commercial agglutination test and an in-house IIFT. The results were compared and yielded a sensitivity of 100 % and a specificity of 100 %.

To investigate the specificity, an additional panel of 12 sera from laboratory dogs was tested. They were all negative in the EUROIMMUN Anti-Toxoplasma gondii IIFT Dog (IgG).

n = 42, Germany		Precharacterisation (in-house IIFT)	
		positive	negative
EUROIMMUN Anti-Toxoplasma gondii IIFT Dog (IgG)	positive	13	2
	negative	5	22

n = 5, Belgium		Precharacterisation (Agglutination test and IIFT)	
		positive	negative
EUROIMMUN Anti-Toxoplasma gondii IIFT Dog (IgG)	positive	4	0
	negative	0	1