



## Toxocara species

# Enzyme immunoassays for the diagnosis of toxocariasis

**ELISA** kits are optimized and validated for detection of IgA and IgG antibodies in human serum and plasma



Diagnostic kits are intended for professional use in the laboratory.



## Introduction

Larval toxocariasis is a human parasitic disease caused by the larval stage of a dog roundworm – *Toxocara canis* and cat roundworm – *Toxocara cati*.

The infection is characterized by the presence of migrating larvae (larva migrans) in various organs. The *Toxocara* larvae hatching from infectious eggs in the human intestine penetrate the intestinal wall and migrate hematogenously into the liver, lungs, CNS, eyes, musculature and other organ systems. Larvae migration generates several clinical pathologies in the patient, such as visceral larva migrans, ocular toxocariasis and neurotoxocariasis.

**Visceral larva migrans (VLM)** – includes non-specific and variable clinical symptoms such as eosinophilia,

leucocytosis, hepatomegaly, brief febrile episodes, mild gastrointestinal disorders, asthmatic attacks, pneumonic symptoms, lymphadenopathy and urticarial skin changes.

**Ocular larva migrans (OLM)** – the granulomatous retina deficiencies that may result in the loss of sharp vision, strabismus, uveitis, chorioretinitis, retinaablation and the so-called “lightvision”. In some cases full blindness of one or both eyes may also occur.

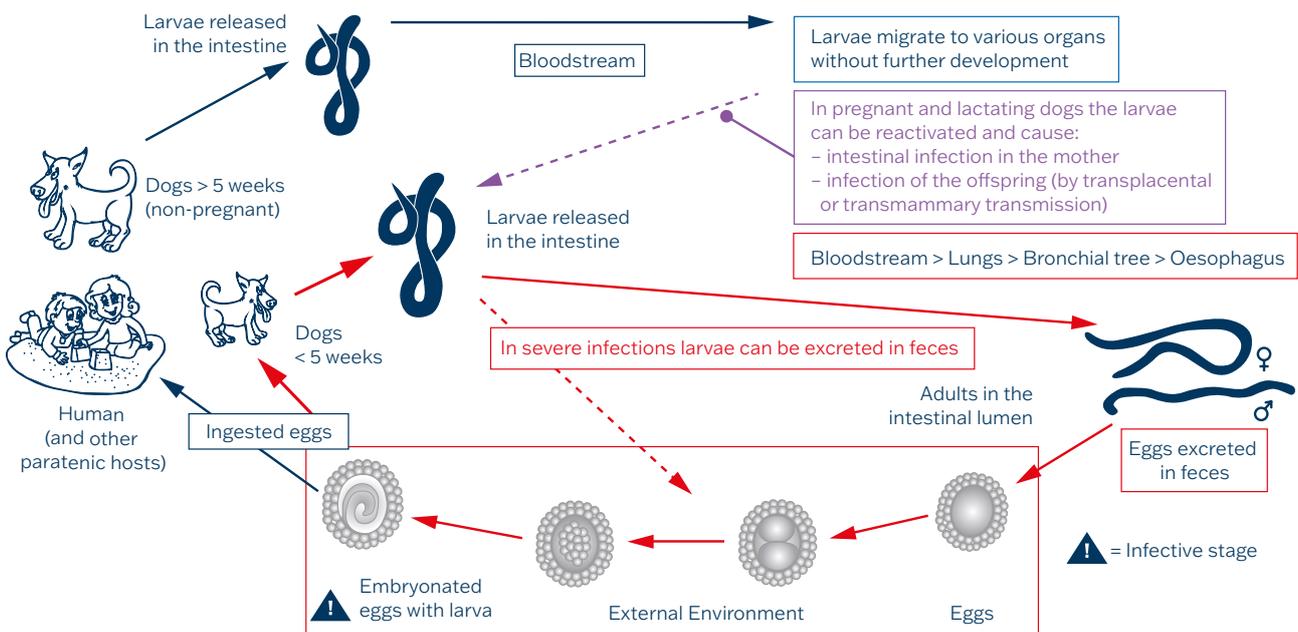
**Neurotoxocariasis** – *Toxocara* larvae in the peripheral or the central nervous system cause meningoencephalitis or other neurological manifestations such as eosinophilic meningomyelitis cerebral vasculitis, epilepsy, myelitis, radiculitis, affection of cranial nerves or skeletal muscle affection.

## Diagnosis of Infection

Diagnosis of a disease is based on the evaluation of a data set: anamnesis, clinical manifestation and laboratory tests results.

Given the incomplete life cycle and non-specific symptoms serodiagnostic methods are reliable tools to detect *Toxocara* antibodies or antigens in humans. The most significant criterium is the presence of specific IgG antibodies against excretory-secretory antigens (TES).

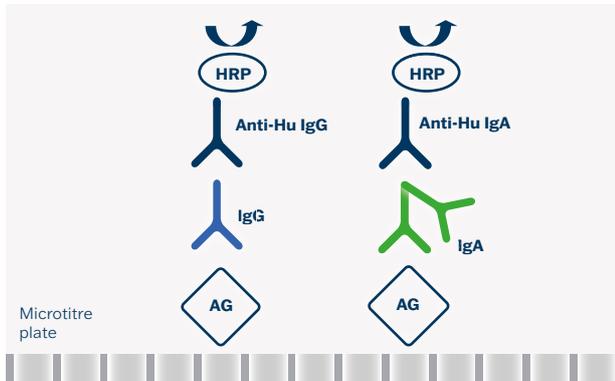
Determination of avidity for IgG antibodies enables to determine the phase of the disease, specific IgA antibodies complement the diagnostic mosaic.



# ELISA

## Test Principle

The assay is based on a sandwich type of ELISA method.



## Summary Protocol

Step	Test steps
1.	Dilution of samples – serum/plasma 1:101 (10 µl + 1 ml)
2.	Pipette Controls and diluted samples 100 µl – Including blank
3.	Incubate 30 minutes at 37 °C
4.	Aspirate and wash the wells 5 times
5.	Add Conjugate 100 µl – Including blank
6.	Incubate 30 minutes at 37 °C
7.	Aspirate and wash the wells 4 times
8.	Add 100 µl Substrate (TMB-Complete) – Including blank
9.	Incubate 15 minutes at 37 °C
10.	Add 100 µl Stopping solution 100 µl – Including blank
11.	Read colour intensity at 450 nm

## Antigens

Excretory-secretory (“ES”) antigen isolated from cultured larvae of *Toxocara canis*

## Clinical Application

- Laboratory screening test for detection of toxocariasis (larva migrans)
- Diagnostics and differentiation of toxocariasis infection stage (acute, chronic) by detection of IgG antibodies in human serum or plasma and determination of IgG avidity.
- Monitoring of antibody levels following therapy

## User Comfort

- Ready-to-use components
- Colour-coded components
- Breakable colour-coded microplate strips
- CUT-OFF included
- Semiquantitative evaluation of results (Index of Positivity)
- Easy assay procedure

## Advantages

- High diagnostic specificity and sensitivity
- High reproducibility
- High dynamics of antibody response
- Short total assay time
- Avidity test available (EIA Toxocara IgG)
- Ready for automation
- Customer support

## Test Characteristics

ELISA	Diagnostic Sensitivity	Diagnostic Specificity
EIA Toxocara IgA	95.2%	95.8%
EIA Toxocara IgG	95.5%	95.5%



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## Ordering information

ELISA

<b>Cat. No.</b>	<b>Product</b>	<b>No. of Tests</b>
TcA096	EIA Toxocara IgA	96
TcG096	EIA Toxocara IgG	96
SK-TcA096	SmartEIA Toxocara IgA	96
SK-TcG096	SmartEIA Toxocara IgG	96

SmartEIA kits are designed for automated processing using the Agility® analyser



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