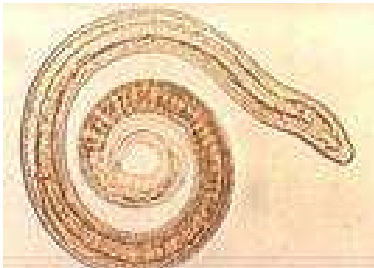


## Trichinella spiralis



*Trichinella spiralis* is the causative agent of trichinellosis, humans as well as several animals can be infected.

Eight *Trichinella* species and several strains have been described. The most widespread and most important species is *Trichinella spiralis*, which occurs worldwide, but prefers the temperate climate zones. Male *Trichinella spiralis* are approximately 1-2mm long, the females 2-4 mm. The sources of human infection are raw and insufficiently cooked or frozen meat products from domestic pigs and wild boars, horses and less frequently from bears, dogs and other animal species. Dried and pickled meat containing trichinellae can also be infective.

After ingestion of raw or undercooked meat containing encysted *Trichinella* larvae, the larvae are released following exposure to the digestive juices, whereupon they invade epithelial cells in the small intestine, reaching sexual maturity within a few days after four moltings. Each female produces about 200-1.500 larvae, which penetrate into the lamina propria. The larvae disperse into organs and body tissues by means of lymphogenous and hematogenous migration. Further development occurs only in striated muscle cells that they reach five to seven days p.i. at the earliest. The larvae penetrate into muscle fibers, which are normally not destroyed in the process, but transformed into "nurse" cells providing a suitable environment for the parasite. The muscle cells encapsulate the parasite. The *Trichinella* larvae at first lie stretched out straight within the muscle cell, but by the third week p.i. they roll up into a spiral form and differentiate further during this period to become infective. The encapsulated *Trichinella* remain viable for years in the host.

The severity and duration of clinical manifestations depend on the infective dose and the rate of reproduction of the trichinellae. As few as 50-70 *Trichinella spiralis* larvae can cause disease in humans. Infections run a two-phase course (see tab.).

| Species                     | Disease        | Symptoms   | Mechanism of infection   |
|-----------------------------|----------------|--|--|
| <i>Trichinella spiralis</i> | Trichinellosis | <p><u>Intestinal phase:</u> incubation period of 1-7 days. Symptoms: nausea, vomiting, gastrointestinal disorders with diarrhea, mild fever and other symptoms. An inapparent course is also possible.</p> <p><u>Extraintestinal phase:</u> incubation period of 7 or more days. Symptoms caused by invasion of body tissues by <i>Trichinella</i> larvae: myositis with muscle pain and stiffness, respiratory and swallowing difficulties, fever, edemas on eyelids and face, cutaneous exanthema. Feared complications include myocarditis and meningoencephalitis. Further characteristic features are blood eosinophilia, raised activity of serum lactate dehydrogenase, myokinase and creatine phosphokinase, and creatinuria. This phase lasts about 1-6 weeks. It is frequently followed by recovery, but rheumatoid and other symptoms can also persist. Lethal outcome is rare.</p> | Ingestion of raw or undercooked meat containing <i>Trichinella</i> larvae (from pigs, wild boars, horses and other species). |

Infections may be diagnosed by:

Microscopy, muscle biopsy

Serology: Determination of specific antibodies based on the ELISA-technique

## **NovaLisa™ Trichinella spiralis IgG ELISA:**

The NovaLisa™ Trichinella spiralis IgG ELISA is intended for the qualitative determination of IgG-class antibodies against Trichinella spiralis in human serum or plasma (citrate).

### **Antigens:**

Trichinella antigens

### **Specific performance characteristics:**

|     | Intraassay |      |      | Interassay |      |      | Sensitivity % | Specificity % |
|-----|------------|------|------|------------|------|------|---------------|---------------|
|     | n          | Mean | CV % | n          | Mean | CV % |               |               |
| IgG | 8          | 0,70 | 3,9  | 4          | 0,73 | 5,2  | >95           | >95           |

### **Order information:**

|                          |                          |                |
|--------------------------|--------------------------|----------------|
| ELISA                    | Number of determinations | Product number |
| Trichinella spiralis IgG | 96                       | TRIG0480       |