

Fast + Simple
Focused on Veterinary Diagnostics

FASTest® HW Antigen ad us. vet.

Travel disease – a remembrance with a serious outcome

Fast test for the qualitative detection of *Dirofilaria immitis* specific antigens in whole blood, plasma or serum of the dog and cat

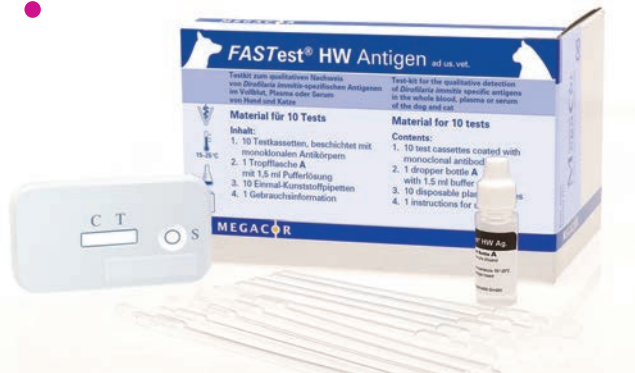
Fast aetiological diagnosis of the pathogen from 1 adult female *D. immitis* on

In case of clinical suspicion (chronic cough, dyspnoea, loss of power)

Immediate initiation of therapy as well as control of effectiveness of "adulticide therapy"

Routine check at the annual health control (control of effectiveness of heart worm prevention measures)

Obligatory test after travelling abroad or of dogs with unknown origin



- Simple test procedure with whole blood, plasma or serum
- Fast test interpretation after 15 minutes
- Reliable clinical diagnostics
- Sensitivity 98.6% & Specificity 99.1%
- Storage at room temperature (15–25°C)
- Long shelf life
- Compact test box with 2, 10, 25 or 50 tests

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The dirofilariosis of the dog, cat, ferret as well as other carnivores, is caused by the so-called "heart worm", a nematode of the filaria family named *Dirofilaria immitis*. Infection of humans (dead end host) is possible (zoonosis). The filaria manifest especially in lungs and conjunctive tissue, but are rarely diagnosed.

Dirofilariosis occurs world-wide in warmer climate zones, especially in the south of the USA, Middle and South America, in parts of Eastern Asia and in the Mediterranean area (Italy with the Padan Plain, Spain and Greece). However, there are first scientifically verified cases of dirofilariosis in Ticino (Switzerland). In the course of climate warming, dirofilariosis seems to be on the march to temperate zones.

The transmission happens via infected, haematophagous mosquito species (*Culicidae*), releasing infectious *D. immitis* larvae (stage L3) in the host blood with the sting. After development of the larva (stage L4) in the hypodermis of the host (about 8 days post infection), they migrate into the blood circulation. The establishment of the adult worms (macrofilaria: up to 1 mm thick, 20-30 cm long) takes place earliest 80 days post infection, most of all in the pulmonary artery and in the right heart chamber. The female adult parasite of the bisexual macrofilaria produce new larvae (stage L1, microfilaria) at first after 6 (dog) to 7 (cat) months. These are released together with antigens of the female reproductive tract to the peripheral blood (microfilaraemia) and are ingested again by mosquitoes at sucking action. In the mosquitoes, the larva 1 develops into an infectious larva 3.

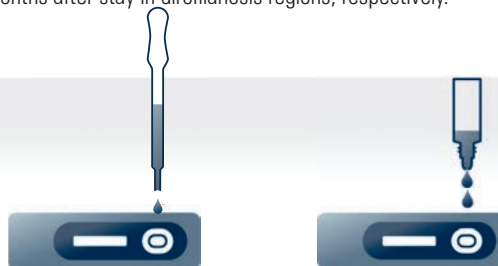
The degree of disease depends on the quantity of adult worms ("worm burden"), localization, duration of infection and the host's immunological reaction. Concerning the worm burden, dogs and cats differ a lot. In cats, normally there are less than 5 worms, in dogs more than 30.

First of all, dirofilariosis is a cardiopulmonary disease beginning without symptoms. In advanced stage, right-sided heart failure and Cor pulmonale occur with symptoms like cough, dyspnoea, heart and lung murmurs, oedemas as well as fast fatigue. Particularly in small dogs, in case of large "worm burden" the "vena-cava syndrome" (obturation stenosis because of massive worm cluster in the posterior vena cava and the right atrium of the heart) occurs and thus leads to intravascular haemolysis, shock, kidney failure and sudden death.

In cats, rather the lungs are affected and the symptoms are not always typical for heart worms. Nevertheless, only one *D. immitis* can be lethal. Due to the rather difficult clinical diagnosis and the short and transient proceeding microfilaraemia, a repeated testing with **FASTest® HW Antigen** is recommended.

Being fast and reliable, the **FASTest® HW Antigen** detects group-specific antigens of the active reproductive tract of the female adult *D. immitis* worm. Due to the long incubation time of 6 (dog) and 7 (cat) months post infection (after stay in dirofilariosis regions), testing with **FASTest® HW Antigen** should be carried out earliest 6 and 7 months after stay in dirofilariosis regions, respectively.

Test procedure



Test interpretation



POSITIVE



NEGATIVE



A travel parasitosis seldom comes single. Coinfections with *Ehrlichia canis* and/or *Leishmania infantum* can be detected with **FASTest® EHRlichIA canis** and/or **FASTest® LEISH** or the combined test **FASTest® EHRlichIA-LEISH**. Parasitic infections come along with increasing CRP (C-reactive protein) values, due to increasing inflammatory activities and tissue damage. In case of unclear symptoms, the veterinarian gets additional hints to subjacent inflammation and infection with the help of **FASTest® CRP** canine.

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