

Canine Heartworm Antigen Test Kit



HESKA®

Solo Step® CH

Canine Heartworm Test Cassettes

In vitro diagnostic test for the detection of
Dirofilaria immitis antigens in canine serum,
plasma or anticoagulated whole blood.



Heartworm in Dogs

Although heartworms infect a wide variety of mammals, the definitive host is the dog. Adult heartworms live in the right ventricle and pulmonary arteries where, as adults, they produce microfilariae which can be found circulating in the blood of an infected dog. Transmission of the infection occurs when a mosquito ingests circulating microfilariae while feeding on an infected dog. The microfilariae develop within the mosquito to the infective 3rd stage larvae after which they can be transmitted to another animal when the mosquito feeds again. Once infective larvae have been transmitted, they continue to develop and migrate until they reach the heart and pulmonary arteries as young adult worms. Heartworms can interfere with heart function and cause serious damage to the heart, pulmonary vasculature and other organ systems.

Serologic diagnosis of canine heartworm infection is based on detection of circulating antigens or microfilariae, each of which are detectable beginning at about 6 months post-infection. However, even in areas where the prevalence of heartworm infection is high, many heartworm-infected dogs do not have a detectable microfilaremia; therefore antigen testing is considered the primary diagnostic method. In addition, most heartworm-infected dogs that receive regular monthly doses of macrolide heartworm preventives will become amicrofilaremic, further reinforcing the role of antigen testing as the primary tool for the diagnosis of canine heartworm infection.

Product Description

HESKA® Solo Step® CH is a one-step, lateral flow immunoassay for the detection of antigens produced by adult, female *Dirofilaria immitis* in canine serum, plasma or anticoagulated whole blood. This test is highly specific and sensitive, very simple to use, and results are read within 5 – 10 minutes.

Diagnosis of the infection is based on the detection of circulating antigens produced by adult female heartworms. Antigen detection is possible beginning approximately 6 months post-infection.

Indications

HESKA® Solo Step® CH is a diagnostic tool which has been developed to assist veterinarians in detecting *D. immitis* infections in dogs and to help monitor the success of canine heartworm prevention and treatment programs.

Directions for Use

The test cassette is for use in detecting antigens produced by *D. immitis* in serum, plasma or anticoagulated whole blood from dogs.

Required Materials

1. A sample of canine serum, plasma or anticoagulated whole blood
2. Test cassette (provided)
3. Pipette (provided)
4. Timer or clock

Procedure

1. Open the foil package and place the test cassette on a flat solid surface (Figure 1).
2. Using the pipette, draw up the patient sample into the stem portion of the pipette. Do not fill the bulb (Figure 2).
3. Holding the pipette vertically, dispense 3 drops of the sample into the round sample well of the test cassette (Figure 3).
4. Allow the test cassette to sit undisturbed for 5 – 10 minutes (Figure 4).
5. Read the results in the rectangular Results Window 5 minutes after applying serum or plasma. For anticoagulated whole blood, read results 10 minutes after application. A blue line (Procedural Control Line) **must** appear on all samples, and a red line (Test Line) may or may not appear (Figure 5).

Figure 1

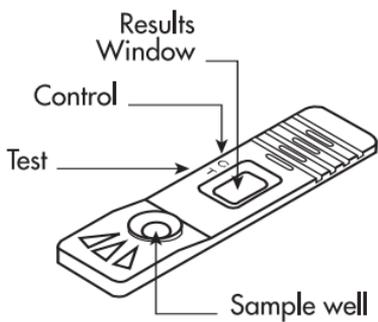


Figure 2

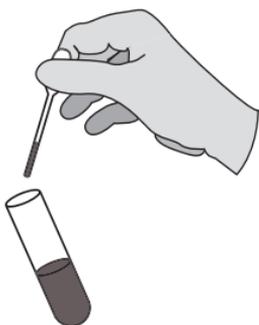


Figure 3

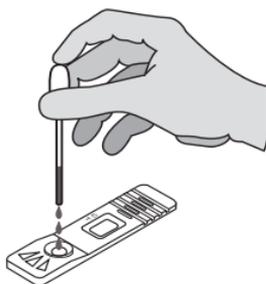
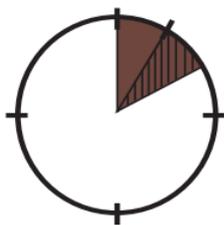
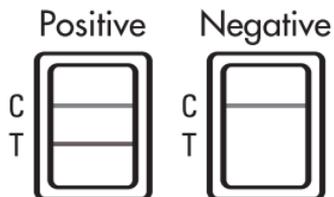


Figure 4



5-10 minutes

Figure 5



Interpretation of Test Results

Procedural Control Line (C): You **must** see a blue line within 5 minutes of adding serum or plasma, or within 10 minutes of adding anticoagulated whole blood, for the test to be valid. This blue procedural control line indicates proper flow of the sample through the test cassette. **If the blue line does not develop, the test is invalid and should be repeated.**

Discard the cassette, and repeat the test with a new cassette.

Test Line (T): Any visible red line within 5 minutes of adding serum or plasma, or within 10 minutes of adding anticoagulated whole blood, indicates a positive result. Antigens from adult *D. immitis* are present. This means one or more of the following:

- The dog is infected with adult, female *D. immitis*.
- An infection with adult, female *D. immitis* has recently been cleared but circulating adult heartworm antigens are still detectable. Antigens may be detected up to 16 weeks after the death of worms.

No red line within 5 minutes of adding serum or plasma, or within 10 minutes of adding anticoagulated whole blood, indicates a negative test result. There are no antigens present. This means one of the following:

- The dog is not infected with *D. immitis*.
- The dog is infected with immature heartworms (*i.e.*, worms are less than approximately 6 months old).
- The dog is infected with adult male worms only.

Sample Collection and Storage

Anticoagulated Whole Blood: Collect an anticoagulated blood sample in EDTA, heparin or citrate using standard clinical laboratory procedures. Anticoagulated whole blood samples should be tested within 24 hours of drawing. If delays are expected between sample collection and testing, anticoagulated whole blood samples should be stored either on ice or refrigerated (2° – 7° C), but should not be frozen. If anticoagulated whole blood samples cannot be tested within this period of time, separate plasma by centrifugation and store as described below.

Plasma: Collect an anticoagulated blood sample using standard clinical laboratory procedures. Separate plasma by centrifugation. Plasma samples may be stored refrigerated (2° – 7° C) for up to 72 hours; for longer storage, freeze at or below -20° C in vials with air-tight seals.

Serum: Collect and prepare serum samples using standard clinical laboratory procedures. Serum samples may be stored refrigerated (2° – 7° C) for up to 72 hours; for longer storage, freeze at or below -20° C in vials with air-tight seals.

Precautions

1. Do not expose the test cassette to direct sunlight.
2. Do not use the test cassette more than once.
3. Use the test cassette immediately after opening the foil pouch.

Storage and Stability

1. Store at room temperature (15° – 30° C [59° – 86° F]).
2. See package for expiration date.

For technical assistance, call Heska at **1-800-GO HESKA (1-800-464-3752)**.



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