



# CHW Ag Test Kit

**Canine Heartworm Ag Test Kit**

**AI01**



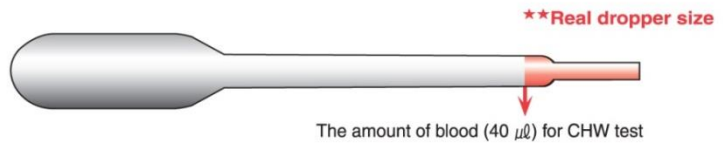
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# CHW Ag Test Kit

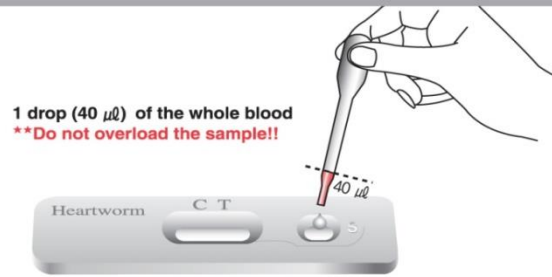
## Canine Heartworm Ag Test Kit

|                           |  |
|---------------------------|--|
| <b>Catalog number</b>     | AI01   |
| <b>Summary</b>            | Detection of specific antigens of canine heartworms within 10 minutes  |
| <b>Principle</b>          | One-step immunochromatographic assay   |
| <b>Detection Targets</b>  | <i>Dirofilaria immitis</i> antigens  |
| <b>Sample</b>             | Canine Whole Blood, Plasma or Serum  |
| <b>Reading time</b>       | 5 ~ 10 minutes   |
| <b>Sensitivity</b>        | 99.0 % vs. PCR   |
| <b>Specificity</b>        | 100.0 % vs. PCR  |
| <b>Limit of Detection</b> | Heartworm Ag 0.1ng/ml  |
| <b>Quantity</b>           | 1 box (kit) = 10 devices (Individual packing)  |
| <b>Contents</b>           | Test kit, Buffer bottle, and Disposable droppers   |
| <b>Storage</b>            | Room Temperature (at 2 ~ 30°C)   |
| <b>Expiration</b>         | 24 months after manufacturing  |
| <b>Caution</b>            | Use within 10 minutes after opening<br>Use appropriate amount of sample (0.04 ml of a dropper)<br>Use after 15~30 minutes at RT if they are stored under cold circumstances<br>Consider the test results as invalid after 10 minutes |

# Instruction for CHW test



## 1 Sampling & loading



## 2 Absorption

Wait for complete absorption



## 3 Buffer addition

00:00:00



2 drops (80 µl) of buffer  
\*\*after complete absorption



## 4 Reading

00:05:00~00:10:00



+



Read the result between 5~10 min

-



## 5 Discard

00:10:00



: Discard the used device  
Invalid result after 10 min



# Canine Heartworm

## Infection route of canine heartworm



A dog having canine heartworm, microfilariae, in blood is bitten by mosquito. Then, the mosquito carries the heartworm's larva in the blood from the dog.

2~3 weeks later, the larva grows able to infect other dogs.

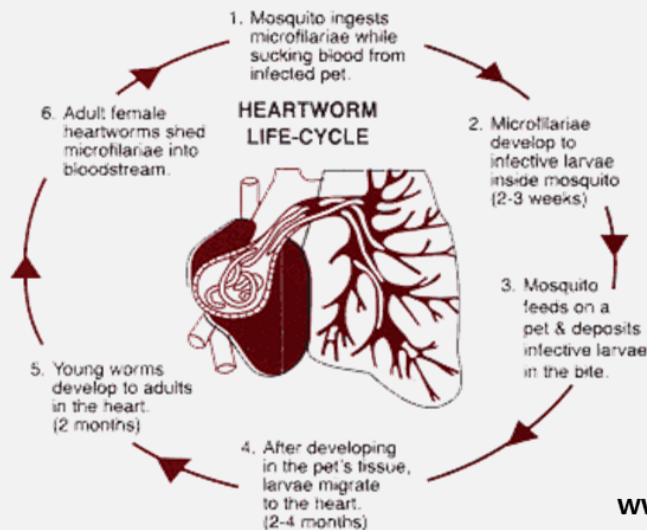


When the mosquito bites another dog, the infectious larva is transmitted into the dog. After penetrating the skin and growing in the tissues for several months, the heartworm enters the heart of the dog.



When in the heart, the heartworm grows 14 inches in length, doing severe harm to the heart, lung, and other critical organs and, in the end, causing the death if not treated properly.

[www.avma.org](http://www.avma.org)



[www.speedwayvet.com](http://www.speedwayvet.com)

# Canine Heartworm

## Information

Adult heartworms grow several inches in length and reside in the pulmonary arteries where it can obtain enough nutrients. The heartworms inside the arteries trigger inflammation and form hematoma. The heart, then, should pump more often than before as the heartworms increase in number, blocking the arteries.

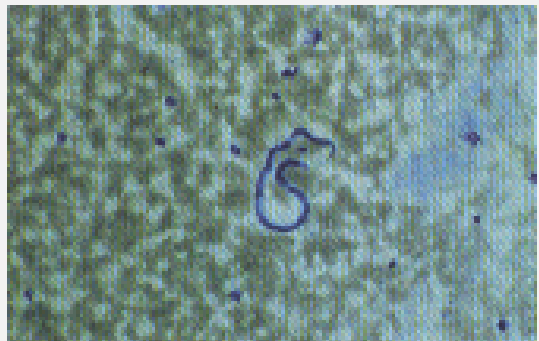
When infection deteriorates (over 25 heartworms exist in a 18 kg dog), the heartworms move into the right atrium, blocking the flow of blood.

When the number of heartworms reaches more than 50, they could occupy atriums and ventricles.

When infected with over 100 heartworms in the right part of the heart, the dog loses the function of the heart and eventually dies. This fatal phenomenon is called as "Caval Syndrom."

Unlike other parasites, the heartworms lay small insects called as microfilaria. Microfilaria in mosquito moves into a dog when the mosquito sucks blood from the dog. The heartworms that can survive in the host for 2 years die if they do not move into another host within that period. The parasites residing in a pregnant dog can infect its embryo.

Early examination of heartworms is very important in eliminating them. Heartworms go through several steps such as L1, L2, L3 including the transmission stage through mosquito to become adult heartworms.



# Canine Heartworm

## Heartworms in mosquito

Microfilaria in mosquito grows into L2 and L3 parasites able to infect dogs in several weeks. The growth depends on the weather. Favorable temperature for the parasite is over 13.9°C.

When an infected mosquito bites a dog, microfilaria of L3 penetrates into its skin. In the skin, the microfilaria grows into L4 for 1~2 weeks. After residing in the skin for 3 months, L4 develops into L5, which moves into blood. L5 as the form of adult heartworm enters the heart and pulmonary arteries where 5~7 months later heartworms lay insects.



# Canine Heartworm

## Diagnosis

The disease history and clinical data of a sick dog, and various diagnostic methods should be considered in diagnosing the dog. For example, X-ray, ultrasound scan, blood examination, detection of microfilaria and, in worst case, autopsy are required.

### Serum examination;

Detection of antibodies or antigens in the blood

### Antigen examination;

This focuses on detecting the specific antigens of female adult heartworms. The examination is carried out in the hospital and its success rate is high. Test kits available on the market are designed to detect 7~8 month-old adult heartworms so that heartworms younger than 5 months are hard to detect.

## Treatment

The infection of heartworms is successfully cured in most cases. To eliminate all heartworms, the use of medicines is the best way. Early detection of the heartworms raises the success rate of the treatment. However, in the late stage of infection, complication can occur, making the treatment more difficult.