

## Introduction

Canine heartworm causes disease primarily in the small pulmonary arteries and moves in the heart and matures up to 30cm long. Heartworms are spread by mosquitoes that bite infected animals and ingest tiny juvenile heartworms (microfilariae) in their meal of blood. These mature within the mosquito and can then be spread to other dogs and cats when the mosquito feeds again. The heartworm larvae then migrate from the mosquito to bite wound, through the skin, to the heart and lungs of infected animals, where they mature. Heartworm disease is caused by the body's immunologic reaction to the presence of the adults and offspring. Infected dogs and cats may die unless heartworm infection is diagnosed and specifically treated, however the infection can be easily prevented.

## Specifications

- Principle : Immunochromatographic assay  
Gold conjugate ; monoclonal anti-heartworm of CHW  
Test line detector ; anti-heartworm of CHW
- Detection : Canine heartworms
- Specimen : Canine whole blood, serum and plasma
- sensitivity : 92.8% vs Necropsy
- specificity : 100% vs Necropsy
- No cross reaction : Parasites, ascariasis, stringyloidiiasis, E-coli
- Detection limit: Infection of one female heartworm
- Detection time: 5-10 minutes
- Shelf life: 18 months
- Storage temperature: 2~30°C
- Packing size: 10 Tests/Kit.

## Features

- Strong density of positive test line
- Detection of infection by only one female canine heartworm
- Detection of protein secreted by male heart worm in culture, but no confirmation infected by only male worm
- Minimize occult specimen
- Quick diagnosis of CHW in the field and laboratory without additional equipment and technical skill
- High sensitivity
- Save labor and time to deliver the specimens to clinical laboratory

### Clinical test 1. Comparison with commercial kits.

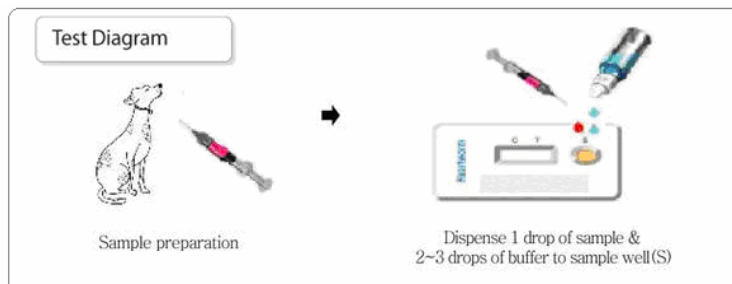
		RapiGEN CHW Ag Test	
		Positive	Negative
H company CHW kit	Positive	13	0
	Negative	1	76
Sensitivity : 92.8 %, Specificity : 100%, Agreement : 99 %			

### Clinical test 2. Comparison with necropsy, microfilaria, and other commercial kits.

Serial No. of specimen	Necropsy		Micro-filariae	RapiGEN CHW Ag test	"H" HW Ag test	"A" HW Ag test	"I" HW Ag test
	Male	Female					
1	2	1	Y	+	+	+	+
2	0	1	N	+++	++	++	+++
3	2	2	NA	-	-	-	-
4	6	3	Y	+++	+++	+	+
5	4	6	Y	+++	+	+++	+
6	7	8	Y	+++	+	+++	++
7	12	8	Y	++	+++	+/-	++
8	9	8	Y	+++	+++	+	+
9	8	8	Y	+++	+++	+/-	+++
10	15	13	Y	+++	+++	+	++
11	3	17	Y	+	-	-	-
12	25	20	Y	+++	+	+++	+
13	22	26	Y	+++	+	++	+
14	22	30	Y	+++	+	+++	+
15	32	32	Y	++	+++	-	+++
16-63 (48)	0	0	N	-	-	-	-

Y : Exist of microfilaria, N: No exist of microfilaria, NA :Not assay, +++:Strong positive intensity, ++: Medium positive intensity, + : Positive, +/-:Weak positive intensity, - : Negative

## Procedures



From eggs to microfilaria.

( Original image from RapiGEN )