Efficacy of Ivermectin Against Microfilaria of Brugia pahangi in Naturally Infected Cats
S. Chungpivat*, P. Taweethavonsawat
Parasitology unit, Department of Pathology, Faculty of Veterinary Sciences, Chulalongkorn University, Bangkok 10330 Corresponding author: Sudchit.C@chula.ac.th
Keywords: Brugia pahangi, cat, ivermectin, microfilaria

Introduction
Brugia pahangi has been found in domestic cats in Bangkok, Thailand with a prevalence 25.30% (3) and also considered as public health concerns (4). The yearly treatment of lymphatic filariasis in cat caused by Brugia pahangi with ivermectin has not been successful (2). Most commonly, the efficacy of ivermectin treatment have been determined by measuring the decrease of numbers of microfilaria. The aim of this study was to propose the treatment program for microfilaria of Brugia pahangi.

Materials and Methods
Twelve naturally infected cats with Brugia parasite were investigated and diagnosed for the species of microfilaria by using acid phosphatase staining technique. They were divided into three groups. Group 1 was subcutaneously injected with normal saline as control group. Group 2 and 3 were consecutively injected with Ivermectin 400 μg/kg every week for 12 weeks and long acting Ivermectin 400 μg/kg every 2 weeks for 12 weeks, respectively. Blood samples of each cat were collected from the ear vein at 0, 1, 2, 3, 4, 5, 6 and 7 days post treatment, followed by every week for 12 weeks and ended with every month until 12 months. Blood circulating microfilaria count was evaluated by using three line thick blood smear and Giemsa’s stain techniques (1).

Results and Discussion
All cats were found microfilaria of Brugia pahangi by using acid phosphatase staining (Fig. 1). After treatment, numbers of microfilaria of groups 1 and 2 orderly decreased by the time. Furthermore, microfilaria were not observed after 9 and 12 weeks post infection in group 1 and 2, respectively, whereas the control group still found microfilaria until the end of this study (Fig. 2).

This is the first study that is successful to treat and control microfilaria of Brugia pahangi in naturally infected cats with ivermectin. The decrease of numbers of microfilaria in blood circulation indicated that adult worms were possibly affected by ivermectin which may cause the sterilization of female worms resulting to the decrease of numbers of microfilaria in blood circulation (2).

Acknowledgements
This study was supported by Chulalongkorn University-Veterinary Science Research Fund 2008.

References.