Adilan Hniman 2006: Development of Molecular Markers within Protein Genes Containing Leucine-Rich Repeat for the Identification of *Leptospira*. Master of Science (Genetic Engineering), Major Field: Genetic Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Siriwan Prapong, Ph.D. 97 pages.
ISBN 974-16-2605-3

To identify each serovar, a polymerase chain reaction (PCR) was performed with primer sets designed from genes containing leucine-rich repeat (LRR) of *Leptospira interrogans* serogroup Icterohaemorrhagiae serovar Lai. These genes were divided into 5 groups and their primers were designed 3 sets. There were two primer sets, set 1 and set 3, that were selected to prepare genetic markers. To create LRR molecular markers, their PCR products derived from primer set 1 and set 3 were analyzed by using capillary electrophoresis and GeneScan® Analysis Software version 2.1. The results showed that PCR products from primer set 3 shown more diversity molecular makers than that of primer set 1. Moreover, the different molecular makers from primer set 3 could identify pathogenic *Leptospira* spp. in serovars level. Therefore, this finding inspires to future study on functions of proteins containing LRR of *Leptospira* and it also was used as a basic method for studying pathogenesis and identifying different *Leptospira* serovars.

Adilan Hniman Siriwan Prapong Aug 15, 2006

Student's signature Thesis Advisor's signature