

Wudtichai Manasatienkij 2006: Study on Prevalence of Feline Coronavirus and Feline Infectious Peritonitis Virus in Thailand Using Nested RT-PCR. Master of Science (Genetic Engineering), Major Field: Genetic Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Porntippa Lekcharoensuk, Ph.D. 84 pages.

ISBN 974-16-2636-3

Feline infectious peritonitis virus (FIPV) is a mutant of feline coronavirus (FCoV) and belongs to a member of the family *Coronaviridae*. FIPV causes feline infectious peritonitis (FIP), a fatal systemic disease in feline, characterized by Arthus-type immune response. To date, there is no report of FCoV and FIPV in Thailand, although cats with clinical signs resemble to FIPV have been seen sporadically. Thus, the recently developed nested reverse transcriptase PCR (RT-nPCR) has been used for detection of FCoV and FIPV RNAs in clinical samples. The RT-nPCR for FCoV was targeted to the highly conserved 3'-UTR of the viral genome. The target sequence for the FIPV RT-nPCR was in the S1 region of S gene, containing known antigenic differences between FIPV and FECV. The FCoV and FIPV RT-PCR were used to detect the presence of RNAs of both viruses from 184 serum samples collected from cats in the central and eastern part of Thailand. Fifty-seven (30.97%) and 3 (1.63%) of the cat sera contained FCoV and FIPV, respectively. In a parallel study, the serum samples were tested for the presence of the antibodies to FCoV using a dot blot ELISA. Out of 98 samples, 55 (56.12%) of cats were positive for antibodies to FCoV. This is the first report demonstrating the occurrence of FCoV and FIPV in Thailand.

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Thesis Advisor's signature

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