

## HIV LABORATORY NETWORKS IN THAILAND: ROLE OF ARMED FORCES RESEARCH INSTITUTE OF MEDICAL SCIENCES (AFRIMS)

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### ABSTRACT

**Background:** HIV epidemic has remained one of the greatest infectious diseases in Thailand. Thus the development of HIV vaccine is the best hope of controlling the HIV epidemic. In 1993 the National Plan for HIV/AIDS Vaccine Development was established that catalyzed and facilitated the implementation of numerous HIV/AIDS vaccine related activities, including establishing national research networks for HIV laboratories.

**Objectives:** To strengthen existing HIV laboratory in Thailand toward standards that include consistency, reproducibility and efficacy and to standardize research facilities for HIV culture, HIV molecular and HIV immunity laboratories and support development and trial of HIV/AIDS vaccine in Thailand.

**Materials and Methods:** The national HIV laboratory networks is the collaboration effort undertaken by Department of Disease Control, the Ministry of Public Health together, Department of Microbiology in Faculty of Medicine at Siriraj Hospital [The National HIV repository and Bioinformatic Center (Thailand)-NHRBC], the Armed Forces Research Institute of Medical Sciences (AFRIMS) Royal Thai Army Department of Medicine, the Research Institute of Health Sciences (RIHES) Chiang Mai University, Chulalongkorn University, Khonkaen University, Songkhlanakarin University. Because, HIV laboratory of AFRIMS, Royal Thai Army (RTA) is one of the pioneers of HIV research laboratory and conducted the HIV vaccine trial for over decade, AFRIMS, RTA take part in this national research networks. The national HIV laboratory networks develop diagnostic and monitoring kits for HIV-1 infection based on HIV -1 isolates from Thailand to reduce cost of laboratory reagents and also generate the panels of proficiency tests for Flow cytometry to detect CD4+ and CD8+ T cells. Organization the meeting, laboratory training workshops and also development the HIV laboratory manuals and guideline were performed. Many HIV research studies are supported by this national laboratory networks.

**Results:** The development diagnostic and monitoring kits for HIV-1 infection based on HIV -1 isolates from Thailand and anti-HIV antibody detection, proviral DNA/RNA PCR kit and HIV-1 RNA/DNA quantitation kit , and panels of proficiency tests for Flow cytometry to detect CD4+ and CD8+ T cells were done and distributed these reagent kits to HIV laboratory needed in Thailand. Our HIV Laboratory network is success in holding the workshops and laboratory trainings, for examples: Molecular diagnostic of HIV infection (24 September 2002). Some HIV laboratory manuals are generated and distributed to all over the HIV laboratories in Thailand but some are in the process.

**Conclusions:** The national HIV laboratory network is now established to strengthen and assist HIV laboratories in Thailand including routine and research laboratories for standardization and solving the problems. The successful of this collaboration results from many factors but the main of which is willingness to control HIV epidemic in Thailand including HIV vaccine development.

(Source: 32<sup>th</sup> Phramongkutkloa Hospital Annual Scientific Meeting, Abstract number 44, Oral Presentation)