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MANSUET MICHAEL TEMU: DIFFERENTIATION OF *MYCOBACTERIUM TUBERCULOSIS* STRAINS BY AMPLIFICATION OF VARIABLE NUMBER OF TANDEM REPEATS. THESIS ADVISORS : PRASIT PALETTAPONGARNPIM M.D. SAOWAKON PACA-UCARALERTKUN Ph.D., CHAUEAH THONGTHAI Ph.D. 70 p ISBN 974-661-931-4

Repeated DNA sequences can be found in the genomes of both prokaryotes and eukaryotes. These repeats may occur in the form of major polymorphic tandem repeats (MPTR) which contain repeats with substantial sequence variation in adjacent copies or exact tandem repeats (ETR) which contain identical sequence in adjacent copies. Variable number of tandem repeats (VNTRs) are ETR that show inter-individual length variability.

The objective of this study was to test the method for differentiation of strains of *M. tuberculosis* by amplification of tandem repeat sequences in different regions of the genome. Thirty-two regions of tandem repeats were previously identified through Blast search and seven of these were analyzed. Pairs of primers were designed specifically to each locus and a total number of 78 isolates of *Mycobacterium tuberculosis* were studied.

Two regions were not polymorphic. Five were polymorphic and when the results of the 5 VNTR regions were combined, 32 types of *M. tuberculosis* were found. The discriminating power of the method is substantial though not as high as that of Southern hybridization with IS6110.