MULTIPLE MUTATIONS IN *KATG* AND *INHA* IDENTIFIED IN THAI ISONIAZID-RESISTANT *MYCOBACTERIUM TUBERCULOSIS* ISOLATES

Dhruba Kumar Khadka[1], Boonchuay Eampokalap[2], Jarinee Panitchakorn[1], Pongrama Ramasoota[3] and Srisin Khusmith[1]

[1]Department of Microbiology and Immunology, [2]Department of Social and Environmental Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok; [3]Department of Microbiology, Bamrasnaradura Infectious Disease Institute, Ministry of Public Health, Nonthaburi, Thailand

Abstract. A total of 29 Thai multi-drug-resistant/isoniazid-resistant *Mycobacterium tuberculosis* isolates were analyzed for mutations in *katG* from codons 254 to 549, *inhA* promoter and *inhA* open reading frame by DNA sequencing and single strand conformation polymorphism. Twenty-five multi-drug resistant isolates exhibited single point mutations (17 isolates at Ser315Thr plus Arg463Leu, 1 at Thr308Pro plus Arg463Leu, 7 at either Ser315Thr or Arg463Leu) while the other 4 isoniazid-resistant isolates had single point mutation only at Arg463Leu. Seven of 25 multi-drug-resistant isolates [4 at C(-15)T, 1 at T(-8)C; 1 at C(-15)T plus Ser94Ala and 1 at Ile21Val] and 2 of 4 isoniazid-resistant isolates [1 at C(-15)T, 1 at C (-15)T plus Ile21Thr] had mutations in *inhA* promoter and open reading frame, while the other 20 isolates had no mutation at any position. No frame shift mutation was observed in any tested isolates. This is the first report of two mutations, Trp308Pro of *katG* and T (-8)C of *inhA* in *Mycobacterium tuberculosis* isolates.

Correspondence: Prof Srisin Khusmith, Department of Microbiology and Immunology, Faculty of Tropical Medicine, Mahidol University, 420/6 Ratchawithi Road, Bangkok 10400, Thailand.
Tel: 66 (0) 2354-9100-2, Fax: 66 (0) 2643-5583
E-mail: tmskm@mahidol.ac.th