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CHARIN THEPTHAI : EXPRESSION OF RECOMBINANT *BURKHOLDERIA PSEUDOMALLEI* ANTIGEN RECOGNIZED BY SERA FROM SEPTICEMIC MELIOIDOSIS PATIENTS. THESIS ADVISOR : TARARAJ DHARAKUL, M.D., Ph.D., SIRIRURG SONGSIVILAI, M.D., Ph.D. 78 p. ISBN 974-589-235-1

Melioidosis, an infectious disease caused by gram-negative bacillus *Burkholderia pseudomallei*, is a disease in humans and animals and is endemic in Southeast Asia and northern Australia. The very high rates of morbidity and mortality have been the major problems for physicians in the endemic areas. The diagnosis of melioidosis is difficult because of the protean clinical manifestations of the disease. Specific and sensitive serologic diagnosis that can differentiate asymptomatic seropositive individuals and melioidosis patients is greatly needed. In this study, a genomic DNA library of *B. pseudomallei* was constructed in pKSII(-) prokaryotic expression vector. The gene encoding an antigenic protein of *B. pseudomallei* was selected using septicemic melioidosis sera.

The specific clone, pBps-1 which contained a 2.5 kb insert and expressed a 16.7 kDa recombinant protein, was obtained. The potential use of this recombinant protein as a specific antigen for detecting antibodies in the patient's sera was evaluated by Western blot analysis. Western blot analysis using the recombinant protein as the antigen exhibited satisfactory results; with 69.7% sensitivity, 98.5% and 100% specificity using sera from healthy individuals in the endemic and non-endemic areas, respectively.