

ABSTRACT

Profile of Humoral and Cellular Immune in Pulmonary TB Patients to Antigen 85B and ESAT-6 *Mycobacterium tuberculosis*

Desak Nyoman Surya Suameitria Dewi

Objective: Accurate and rapid diagnostic tools are important aspects of managing tuberculosis (TB) cases appropriately. Thus, the exploration and assessment of specific biomarker-targeted antibodies responses are needed for the development of an accurate and rapid diagnostic tool.

Materials and Method: A total of 102 serum samples of TB patients and 102 healthy controls's (HC) serum were collected. The Ag85B and the recombinant ESAT-6 proteins were prepared. Antibody responses against these proteins were evaluated by ELISA. All samples were also screened for the possibility of *Mycobacterium avium-intracellulare* complex (MAC) infection using *enzyme immunoassay* (EIA).

Results: The results showed that the TB patients had significantly higher concentration of IgG in response to Ag85B than the HC. In addition, the receiver operating characteristic (ROC) curve analysis showed that Ag85B was acceptable for diagnostic purposes with a good AUC value. However, in this study ESAT-6 had low AUCs value. Severity degree of TB patients was not correlated with IgG titer while TB patients had significantly higher concentration of IL-7 than HC. Otherwise, result of MAC detection showed that 53 people in the HC group had positive results.

Conclusion: The current results indicate that Ag85B has a potential as biomarker target for antibody responses-based detection of TB. Based on the MAC detection assay, people in the HC group were probably infected with rapidly growing NTM, although antibody responses to Ag85B is low.

Keywords: Antibody response; Ag85B; ESAT-6; pulmonary tuberculosis; serodiagnosis; MAC