

AMINO ACID SEQUENCE OF B-CELL EPITOPE OF N-TERMINAL REGION OF ESAT-6 *MYCOBACTERIUM LEPRAE* ROLE AS SPECIFIC ANTIGEN FOR DIAGNOSIS OF LEPROSY

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Abstract. The objective of this study was to find a specific B-cell epitope of N-terminal region of antigen L-ESAT-6 from leprosy patients, healthy individuals and healthy nurses working for more than 10 years in the leprosy ward of dr.A.Rivai Abdullah Leprosy Hospital, Palembang, Indonesia. Fifty subjects were enrolled in this study, comprising 10 subjects with LL type leprosy, 10 subjects with BB type leprosy, 10 subjects with TT type leprosy, 10 healthy nurses from leprosy ward and 10 healthy individuals as control group. The amino acid sequence of residues 11-36 of the N-terminal region of L-ESAT-6 were divided into a series of 18 peptides each consisting of 9-mer peptides with an overlap of 8-mers and an offset of one amino acid. The series of 18 peptides were synthesized in the form of biotinylated peptides and used to screen sera of 50 subjects using an indirect ELISA method. Our study identified at the N-terminal of L-ESAT-6, LEQCQES, VNELQG and IDALLE as epitope marker for LL and BB type of leprosy, epitope marker for TT type of leprosy and for (protective epitope marker) healthy nurses working for more than 10 years in the leprosy ward, respectively. These antigens can be used in immunochromatographic test for the early diagnosis of leprosy.

Key words: L-ESAT-6, B-cell epitope mapping, *M. leprae* diagnostic tool, protective marker, leprosy marker

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