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Evaluation of specific antibodies against *Mycobacterium tuberculosis* recombinant antigens for detection of recent infection

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ABSTRACT

Introduction: Since an accurate test for detection of Mycobacterium tuberculosis early infection is urgently needed, this study was designed for development of an efficient screening test in diagnosis of tuberculosis infection.

Materials and methods: In the present study, two recombinant proteins CFP-10, ESAT-6 were tested as antigens for the diagnosis of recent tuberculosis. The proteins were produced in *Escherichia* coli, purified and tested in indirect ELISAs with sera from 63 subjects with positive clinical results. Also, 56 sera from healthy persons were tested as controls. The results were compared with molecular and culture.

Results: The levels of antibodies against M. tuberculosis antigens in patients with tuberculosis were significantly higher than those in healthy subjects. Among 63 patients, 58 were positive for ESAT-6, 54 for CFP-10.

Conclusion: Altogether, the role of *M. tuberculosis* recombinant proteins, as a suitable candidate for early diagnosis of tuberculosis infection was supported in this study. However, these strongly offer the potential of mixture or fusion of these recombinant proteins for better sensitivity and specificity.

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