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Expression and serological diagnosis of *Mycobacterium tuberculosis* CFP-10 and Rv2626c proteins

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ABSTRACT. We constructed a *Mycobacterium tuberculosis* vector expressing CFP-10 and Rv2626c to examine the expression of these proteins in *Escherichia coli* as well as their immunoreactivity. The CFP-10 and Rv2626c genes were amplified from tuberculosis H37Rv genomic DNA using polymerase chain reaction. They were ligated into the expression vector PET30a and expressed in *E. coli*. Histidine tag nickel column chromatography was used to purify the recombinant protein. An enzyme-linked immunosorbent assay (ELISA) was used for detection. In our *E. coli*-engineered bacteria containing a CFP10 and Rv2626c plasmid, the target protein was found mainly to be in the soluble form. We formed mixed antigens of the recombinant CFP10 and Rv2626c proteins. ELISA results showed that in 214 blood samples, the positive rate was 77.1%. The target gene was successfully expressed in the host strain. Mixed antigens of the recombinant CFP-

10 and Rv2626c proteins can be used as a combination antigen in the serological diagnosis of tuberculosis.

Key words: *Mycobacterium tuberculosis*; CFP-10 protein; ELISA; Rv2626c protein; Serodiagnosis

