

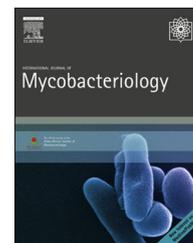


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## Molecular identification of *Mycobacterium tuberculosis* complex isolated by Region of Differentiation (RD) typing from tuberculosis patients in Khorasan Razavi

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### ABSTRACT

**Objective/background:** Tuberculosis has long been recognized as a zoonotic disease and remains one of the most life-threatening diseases worldwide. In spite of the successful treatment of this disease, the World Health Organization considers it as a disease with the highest priority in 1993, and it is now the second leading cause of infectious mortality. Since the identification of *Mycobacterium tuberculosis* complex species is of special importance, the aim of this study was to identify the species from the submitted mycobacterial isolates of tuberculars in Khorasan Razavi sent to the cell reference laboratory of Razavi Institute by the molecular method.

**Methods:** Today, various molecular methods are used as a useful and quick tool to identify the isolates. In this research, we used polymerase chain reaction (PCR) test on the 16sr RNA gene to determine if the isolates belonged to the *Mycobacterium* genus. Then another PCR test of IS6110 performed to confirm that all of isolates are belonging to *M. tuberculosis* complex. Finally RD typing method was used to differentiate the complex members, and the member species of the complex was identified by this method.

**Conclusion:** Using molecular identification of 100 submitted isolates in Khorasan Razavi province, it was found that all isolates are *M. tuberculosis*. The results showed that the sanatorium in this province was not infected with *M. bovis* and other members of the complex. This is either due to the widespread use of pasteurized milk and nonuse of milk contaminated with *M. bovis* or due to the lack of regular tuberculosis control and eradication programs in the city.

### Conflicts of interest

The authors have no conflicts of interest to declare.

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