

## عنوان مقاله:

DIAGNOSTIC ACCURACY OF GENEXPERT AND HRM IN COMPARISON WITH PROPORTIONAL METHOD FOR STUDY OF DRUG RESISTANCE IN MYCOBACTERIUM TUBERCULOSIS STRAINS ISOLATED FROM TUBERCULOSIS PATIENTS

## محل انتشار:

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## خلاصه مقاله:

**Background and Aim:** Nowadays Tuberculosis is one of the most serious public health problems worldwide. The emergence of multidrug-resistant TB, (MDR)-TB, has had a significant negative effect on TB control. Despite the fact that the proportional method is the gold standard test to diagnose TB in Iran, but it is a time consuming process that takes up to several weeks to show result. Molecular TB diagnostic methods are designed to target specific genes harboring mutations that are associated with resistance to specific anti-TB drugs. High-resolution melting curve analysis (HRM) is a relatively new molecular method that can be used for detection of MDR-TB directly from clinical isolates. **Methods:** A total of 81 sputum specimens were collected from patients suspected of having multidrug resistant tuberculosis. DNA from sputum samples was extracted. Real-time PCR and HRM were done by the Corbett machine in succession. Briefly, HRM components were prepared in 20 µl reaction mixtures. **Results:** The HRM assay categorized 74 patient samples of 82 sputum samples as MDR-TB. The sensitivities of detection of mutations in genes responsible for RIF for *rpoB* was 90.5%. **Conclusion:** According to previous studies, single-drug resistance to Rifampicin is rare. In fact, resistance to Rifampicin is also a marker of resistance to Isoniazid. In general, tuberculosis is more prevalent in developing countries, and diagnosis and treatment costs a lot for patients. Therefore, given that the specificity and sensitivity of the HRM test are the same with the GeneXpert technique, it is concluded that HRM is an appropriate choice in these communities.

## کلمات کلیدی:

Tuberculosis, MDR-TB, HRM, Resistance

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