

عنوان مقاله:

Detection of Isoniazid-Resistant Clinical isolates of Mycobacterium tuberculosis from India using Ser³¹⁵Thr marker by Comparison of molecular methods

محل انتشار:

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خلاصه مقاله:

In this study, Substitution at codon Ser³¹⁵ of katG gene, a reliable marker for isoniazid (INH) resistance was analyzed and compared by three molecular methods such as DNA sequencing, polymerase chain reaction restriction fragment length polymorphism (PCR-RFLP) and PCR-single strand conformation polymorphism (PCR-SSCP) in 105 phenotypically resistant isolates obtained from various parts of India. Out of the 105 resistant isolates, 64 (61%) were found to be resistant by DNA sequencing, 54 (51%) by PCR-RFLP and 57 (54%) by PCR-SSCP methods. The results obtained using PCR-SSCP and PCR-RFLP methods were compared with those from DNA sequencing (gold standard). The sensitivity and specificity of PCR-RFLP were 84% and 100% respectively and corresponding values for PCR-SSCP method were 89% and 95% respectively. The study has shown the comparison of the simple, rapid and cost effective methods with DNA sequencing targeting codon Ser³¹⁵ of katG gene and suggests that PCR-RFLP and PCR-SSCP may be performed as alternative inexpensive methods in settings with a high prevalence of INH-resistant M. tuberculosis strains where sequencing cannot be afforded.

کلمات کلیدی:

Mycobacterium tuberculosis, isoniazid resistance, DNA sequencing, PCR-SSCP, PCR-RFLP

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