

Lack of association between MD-2 promoter gene variants and tuberculosis

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ABSTRACT. Myeloid differentiation-2 (MD-2) is an essential component of the CD14-TLR4/MD-2 receptor complex involved in microbial cell wall component recognition during infection. Genetic variations in the MD-2 gene may influence human susceptibility to infectious diseases. To date, a predisposition of MD-2 gene variants to contract tuberculosis has not been reported. We investigated whether MD-2 gene polymorphisms were associated with the development of tuberculosis in a Chinese population. The six common polymorphisms (rs11465996, rs1809442, rs1809441, rs1809440, rs16938754, and rs7842342) within the MD-2 gene promoter region were all detected in 259 patients with tuberculosis and 276 healthy control subjects by DNA sequencing. None of the allelic frequencies, haplotype patterns or genotype distributions of the assayed polymorphisms was found to be significantly different between patients and controls ($P > 0.05$). We conclude that these gene variants in the MD-2 gene promoter region are not associated with tuberculosis, and apparently do not play a role in susceptibility to tuberculosis in the Chinese population.

Key words: MD-2; Tuberculosis; Single-nucleotide polymorphisms; Disease susceptibility