



Association between HLA-DRB1 alleles and tuberculosis: a meta-analysis

B.F. Chen¹, R. Wang², Y.J. Chen¹, Y. Zhu¹, L. Ding¹ and Y.F. Wen¹

¹School of Public Health, Wannan Medical College, Wuhu, China

²Department of Health Inspection and Supervision, Wuhu Health Bureau, Wuhu, China

Corresponding authors: Y.F. Wen / B.F. Chen

E-mail: wyf@wnmc.edu.cn / chenbf1980@163.com

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ABSTRACT. Although a number of studies have reported that human leukocyte antigen (HLA)-DRB1 alleles may be correlated with tuberculosis (TB), most were based on small samples or inconsistent and unclear results. Here, we present a meta-analysis to investigate the relationship between HLA-DRB1 alleles and TB susceptibility. We gathered relevant information from published studies on the association between HLA-DRB1 alleles and TB susceptibility through a systematic research. Data from eligible fifteen studies were included in the meta-analyses. Each dataset was statistically analyzed to evaluate the HLA-DRB1 alleles by calculating the respective odds ratios (ORs) and 95% confidence intervals (CIs). The results revealed that frequencies of two DRB1 alleles were significantly decreased in TB: DRB1*03 ($P = 0.016$, $OR = 0.78$, $95\%CI = 0.67-0.95$) and DRB1*07 ($P = 0.017$, $OR = 0.81$, $95\%CI = 0.68-0.96$). Thus, our data indicate that DRB1*03 and DRB1*07 may provide protective effects against TB susceptibility. However, well-designed studies with large sample sizes are required for better understanding of this association.

Key words: Human leukocyte antigen-DRB1; Tuberculosis; Meta-analysis