



# Vitamin D receptor *FokI* gene polymorphism and tuberculosis susceptibility: a meta-analysis

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**ABSTRACT.** Numerous studies have evaluated the association between *FokI* polymorphisms in the vitamin D receptor (VDR) gene and tuberculosis risk. However, the specific association remains controversial. In this study, we performed a meta-analysis to assess the association between the *VDR* gene *FokI* polymorphism and tuberculosis. Published studies from the PubMed and Embase databases were retrieved. The pooled odds ratio (OR) with 95% confidence interval (CI) was calculated using fixed- or random-effect models. Overall, a significant association was found between *FokI* polymorphism and tuberculosis risk when all studies were pooled (ff vs FF: OR = 1.36, 95%CI = 1.11-1.66; ff vs Ff: OR = 1.38, 95%CI = 1.14-1.67; dominant model: OR = 0.73, 95%CI = 0.61-0.88). In subgroup analysis by race, a significant association between *FokI* polymorphism and tuberculosis risk was observed in Asians (ff vs FF: OR = 1.71, 95%CI = 1.02-2.85; ff vs Ff: OR = 1.86, 95%CI = 1.40-2.47; dominant model: OR = 0.55, 95%CI = 0.42-0.72), and no significant association was observed among Caucasians and Africans. In conclusion, the *FokI* polymorphism in the *VDR* gene may be related to an increased risk of tuberculosis in Asians. Further large and well-designed studies are needed to confirm these conclusions.

**Key words:** *FokI* polymorphism; Tuberculosis; Vitamin D receptor