CDKAL1 and type 2 diabetes: a global meta-analysis

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ABSTRACT. CDKAL1 (cyclin-dependent kinase 5 regulatory subunit-associated protein 1-like 1) has been shown to be associated with type 2 diabetes in various ethnic groups; however, contradictory results have been reported. We performed a comprehensive meta-analysis of 21 studies for rs7756992, 17 studies for rs7754840 and 10 studies for rs10946398 variants of the CDKAL1 gene to evaluate the effect of CDKAL1 on genetic susceptibility for type 2 diabetes. We found a significant association of rs7756992, rs7754840 and rs10946398 in CDKAL1 with type 2 diabetes (odds ratio (OR) = 1.15, 95% confidence interval (CI) = 1.07-1.23, P < 0.0001; OR = 1.14, 95%CI = 1.06-1.24, P = 0.001, and OR = 1.12, 95%CI = 1.07-1.18, P < 0.0001, respectively). We conclude that there are significant associations between CDKAL1 polymorphisms and type 2 diabetes, but these associations vary in different ethnic populations.

Key words: CDKAL1; Meta-analysis; Single nucleotide polymorphism; Type 2 diabetes