



## Association between V4 polymorphism in the *ADAM33* gene and asthma risk: a meta-analysis

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Genet. Mol. Res. 14 (1): 989-999 (2015)  
Received November 22, 2013  
Accepted April 10, 2014  
Published February 6, 2015  
DOI <http://dx.doi.org/10.4238/2015.February.6.2>

**ABSTRACT.** In this study, we evaluated the associations between the V4 (rs2787094 G>C) polymorphism in a disintegrin and metalloproteinase domain 33 (*ADAM33*) gene and asthma risk. We searched Web of Science, PubMed, Google Scholar, EBSCO, Cochrane Library, and CBM databases from inception through August 2013, without language restrictions. Meta-analysis was performed using the STATA 12.0 software. Crude odds ratios and 95% confidence intervals were calculated. Eight case-control studies were included, with a total of 2128 asthma patients and 3134 healthy controls. Our results suggest that the *ADAM33* V4 polymorphism increases the risk of asthma. Subgroup analysis according to the source of controls revealed significant associations between the *ADAM33* V4 polymorphism and risk of asthma in population- and hospital-based subgroups under allele and dominant models (all  $P < 0.05$ ). Further subgroup analysis using the genotyping method suggested that the *ADAM33* V4 polymorphism is correlated with asthma risk in the polymerase chain reaction-restriction fragment length polymorphism subgroup. However, no association was found in the non-polymerase chain reaction-restriction fragment length polymorphism subgroup. Meta-regression analyses showed that the genotyping method may be a main source of heterogeneity ( $P = 0.003$ ). Our meta-analysis suggests that the *ADAM33* V4 polymorphism

contributes to the risk of asthma and may be utilized as a biomarker for the early diagnosis of asthma.

**Key words:** ADAM33; Asthma; Polymorphism; Meta-analysis