



# Association of a disintegrin and metalloproteinase 33 (ADAM33) gene polymorphisms with chronic obstructive pulmonary disease in the Chinese population: A meta-analysis

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**ABSTRACT.** Numerous studies have evaluated the association between polymorphisms of a disintegrin and metalloproteinase 33 (ADAM33) gene and chronic obstructive pulmonary disease (COPD) risk; however, the results remain conflicting. The aim of this study was to investigate whether ADAM33S2 and -T1 polymorphisms are associated with susceptibility to COPD risk in the Chinese population. Publications addressing the association between ADAM33S2 or T1 polymorphisms and COPD risk were selected from the PubMed, Cochrane Library, Embase, CNKI, and Wanfang databases. Two independent reviewers extracted data from the studies. Statistical analysis was performed

using the RevMan 5.0.25 and STATA 11.0 software. Six case-control studies were retrieved, including a total of 1201 COPD patients and 1203 controls. Meta-analysis results showed a significant association between the T1 polymorphism and COPD risk in both dominant model [odds ratio (OR) = 2.54, 95% confidence interval (CI) = 1.40-4.61, P = 0.002] and recessive model (OR = 3.50, 95%CI = 2.11-5.81, P < 0.00001) comparisons. For S2, no significant association was found in any genetic model. This suggests that the T1 polymorphism of ADAM33 would increase the risk of COPD in a Chinese individual, whereas the S2 polymorphism might not be a risk factor for COPD. To further evaluate the gene-to-gene and gene-to-environment interactions on ADAM33 genetic variations and COPD risk, more studies using large sample sizes of patients are needed.

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