



# Interleukin-6 gene -174G>C polymorphism and chronic obstructive pulmonary disease risk: a meta-analysis

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Genet. Mol. Res. 14 (3): 8516-8525 (2015)  
Received December 18, 2014  
Accepted April 28, 2015  
Published July 28, 2015  
DOI <http://dx.doi.org/10.4238/2015.July.28.21>

**ABSTRACT.** Association studies of interleukin-6 (IL-6) -174G>C polymorphism and chronic obstructive pulmonary disease (COPD) have yielded inconsistent results, possibly because single studies often lack sufficient statistical power. A comprehensive search was performed in the PubMed, Embase, Elsevier, Web of Science databases, Wanfang, and the Chinese National Knowledge Infrastructure (CNKI) databases for published studies investigating the associations between IL-6 -174G>C polymorphism and COPD. Odds ratios (OR) and 95% confidence intervals (95%CI) were used to assess the possible associations. Seven studies with a total of 2701 subjects were included in this meta-analysis. A significantly increased risk was detected in the C allele of the IL-6 -174G>C in Caucasians (C vs G: OR = 1.16, 95%CI = 1.03-1.30; CC+GC vs GG: OR = 1.21, 95%CI = 1.02-1.42; CC vs GG: OR = 1.32, 95%CI = 1.03-1.70). This meta-analysis suggests that the C allele of the IL-6 -174G>C might act as a COPD risk factor in

Caucasians. Further well-designed case-control studies with larger sample sizes are needed to confirm these conclusions.

**Key words:** Chronic obstructive pulmonary disease; Interleukin-6; Gene polymorphism; Meta-analysis