



# Association of IL-4 promoter polymorphisms with asthma: a meta-analysis

L. Tang<sup>1</sup>, H.G. Lin<sup>2</sup> and B.F. Chen<sup>2</sup>

<sup>1</sup>School of Basic Medical Science, Changsha Medical University, Changsha, China

<sup>2</sup>School of Biomedical Sciences, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China

Corresponding author: B.F. Chen  
E-mail: cbifeng@gmail.com

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**ABSTRACT.** This study aimed to more precisely assess the correlation between interleukin-4 (IL-4) promoter polymorphisms and the susceptibility risk of asthma. We conducted association studies on IL-4 promoter C-33T, C-589T, and G-1098T polymorphisms with asthma using data obtained from MEDLINE up to September 2011. Results showed that the polymorphisms IL-4 C-33T and C-589T were significantly associated with asthma; however, significant associations were found only in the European population. In addition, the TT+CT genotype was significantly associated with asthma in adults and no significant association was found in asthma status subgroup analyses. This meta-analysis showed that IL-4 C-589T and C-33T were associated with asthma in Europeans. To further confirm correlations between polymorphisms of the IL-4 promoter with asthma susceptibility, studies involving a larger number of patients worldwide are necessary.

**Key words:** IL-4; Promoter; Polymorphisms; Meta-analysis; Asthma