



# Investigation of the association between matrix metalloproteinase-9 genetic polymorphisms and development of pre-eclampsia in Chinese pregnant women

C. Sun, Q. Zhang, B. Hu and K. Zhang

Department of Gynecology and Obstetrics,  
Second Affiliated Hospital of Zhengzhou University, Zhengzhou, China

Corresponding author: K. Zhang  
E-mail: zhangk22@163.com

Genet. Mol. Res. 15 (3): gmr.15038355  
Received December 28, 2015  
Accepted April 11, 2016  
Published August 12, 2016  
DOI <http://dx.doi.org/10.4238/gmr.15038355>

Copyright © 2016 The Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution ShareAlike (CC BY-SA) 4.0 License

**ABSTRACT.** We carried out a case-control study to evaluate the role of *MMP-9* -1562 C/T (rs3918242) genetic polymorphism in the risk of pre-eclampsia in Chinese pregnant women. Between March 2013 and January 2015, 107 pregnant women with pre-eclampsia were recruited from the Second Affiliated Hospital of Zhengzhou University. Genotyping of *MMP-9* was carried out using polymerase chain reaction-restriction fragment length polymorphism assay. Unconditional logistic regression analyses revealed that women with the CT genotype (OR = 1.81, 95%CI = 1.04-3.11) exhibited significantly higher risk of pre-eclampsia than those with the wild-type CC genotype. Moreover, individuals carrying the T allele were at higher risk of pre-eclampsia than those carrying the C allele; the adjusted OR (95%CI) was 1.62

(1.06-2.47). In conclusion, our study demonstrated that the *MMP-9* -1562 C/T polymorphism plays an important role in the development of pre-eclampsia in Chinese women. Further studies with large sample sizes are greatly needed to confirm our findings.

**Key words:** MMP-9; Polymorphism; Pre-eclampsia