

**Cite this as:** Dong-Yi JIN, Cong-Lin LIU, Jun-Nan TANG, Zhao-Zhong ZHU, Xue-Xi XUAN, Xiao-Dan ZHU, Yun-Zhe WANG, Tian-Xia ZHANG, De-Liang SHEN, Xiao-Fang WANG, Guo-Ping SHI, Jin-Ying ZHANG, 2017. Interleukin-18, matrix metalloproteinase-22 and -29 are independent risk factors of human coronary heart disease. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*, 18(8):685-695.  
<http://dx.doi.org/10.1631/jzus.B1700073>

# **Interleukin-18, matrix metalloproteinase-22 and -29 are independent risk factors of human coronary heart disease**

**Keywords: Interleukin-18, MMP-22, MMP-29, coronary heart disease, risk factor**

# ***Research Summary***

1. Increased plasma and arterial wall IL18 levels in CHD patients may lead to higher plasma and arterial wall expression of MMP-22;
2. Plasma levels of IL18, MMP-22 and MMP-29 were higher in CHD patients than in controls;
3. Plasma IL18, MMP-22 and MMP-29 were independent risk factors of CHD;
4. IL18 and MMP-22 associated with the Gensini score;
5. Plasma IL18 levels associated positively with plasma MMP-22 and MMP-29.

# ***Innovation points***

1. Inflammation is involved in promoting the expression of MMP-22 and possibly MMP-29 during atherogenesis and IL18 is one of those inflammatory regulators of these MMPs in CHD patients;
2. Races and genders may affect the association between IL18 with smoking, diabetes, hypertension, and hyperlipidemia;

# ***Innovation points***

3. (1) As an indirect mechanism, IL18-induced production of IFN- $\gamma$  and IL6 from macrophages may be used to promote MMP-22 and MMP-29 expression in other vascular and inflammatory cells;
- (2) As a direct mechanism, IL18 may act on vascular cells or other inflammatory cells, such as monocytes, NK cells, and even cardiomyocytes to induce their expression of MMP-22 and MMP-29.