### **Novel genetic polymorphism in CUBN associated with susceptibility to rheumatoid arthritis**

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Abstract:

The heritability of RA has been shown from twin studies to be 60%. In the past decades, genome-wide association studies have > 100 genetic risk or protective factors for rheumatoid arthritis. However, the reported genetic variants could only explain less than 40% heritability of RA. Majority of the heritability is still missing which require to be identified with more studies. CUBN belongs to xx gene family and shows xxxxxxxx function indicating it may be involved in the etiology and pathology of RA. Therefore, in this study, we conducted association study to investigate the role of polymorphism of CUBN and its paralog genes including BMP1, TLL1, TLL2, NRP1 and NRP2 in rheumatoid arthritis. In the first stage, we collected 1,078 seropositive RA and 1,045 matched control while 117 SNPs were genotyped. We found rs6602175, rs12243895 and rs12571671 located in xx region of CUBN was significantly associated with RA, OR=0.75, P=1.65x10-5, 95%CI=0.65-0.85. In summary, we identified a novel protective susceptibility SNPs forseropositive RA in a large Chinese Han population.

# Background

# Material and Methods

# Results

# Discussion

# Reference

# Declarations

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# Authors’ contributions

xx and xx contributed to the conception, design and final approval of the submitted version. xx, xx and xx contributed to the integrated analysis of multiple microarray datasets, batch effect elimination and statistical analysis. xxxx collected samples and helped to data cleaning, statistic and draft the manuscript. The final manuscript was completed by xx, xx and xx. All authors read and approved the final manuscript.

# Competing interests

No potential conflicts of interest was disclosed for all the authors

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# Availability of data and material

Data and materials are available upon the request to the authors.