The common *CARD14* gene missense polymorphism rs11652075 (c.C2458T/p. Arg820Trp) is associated with psoriasis: a meta-analysis

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ABSTRACT. Recent genetic evidence suggests a robust association of the *CARD14* single nucleotide polymorphism rs11652075 (c.C2458T/p. Arg820Trp) and other rare mutations in this gene with psoriasis. To assess whether combined data support the relationship between *CARD14* rs11652075 and susceptibility to this disease, we conducted a meta-analysis. PubMed (MEDLINE), EMBASE, Web of Science, and the Cochrane Library were searched for relevant papers published in English. Pooled odds ratios (ORs) and 95% confidence intervals (CIs) were calculated using random-effect models. Heterogeneity between studies was assessed using the Cochran's Q and I^2 statistics. A total of

five published studies, including 32,807 psoriasis patients and 45,458 controls, met our inclusion criteria and were included in the meta-analysis. The pooled OR of the association between the minor allele of this polymorphism and psoriasis was 0.877 (95%CI = 0.834-0.922; P < 0.001). In a stratified analysis, pooled ORs relating to European and Asian ancestry were 0.883 (95%CI = 0.822-0.948) and 0.872 (95%CI = 0.812-0.936), respectively. Those calculated for studies with case sample sizes above and below 1000 were 0.912 (95%CI = 0.870-0.956) and 0.824 (95%CI = 0.734-0.924), respectively. No publication bias was present, and the exclusion of any single dataset did not substantially alter the corresponding pooled ORs. Due to the limited data available regarding clinical classification of cases and genotypes, subgroup stratification by clinical type was not performed. Our results demonstrate a significant association between the *CARD14* rs11652075 polymorphism and psoriasis.