



The L55M polymorphism of paraoxonase-1 is a risk factor for rheumatoid arthritis

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ABSTRACT. Paraoxonase-1 (PON1) is a high-density lipoprotein-associated enzyme that exhibits antioxidant and antiatherogenic activities. We examined a possible association between T172A (L55M) and T(-107)C polymorphisms and rheumatoid arthritis. These polymorphisms were determined in 88 rheumatoid arthritis patients and 78 healthy subjects, using the tetra-amplification refractory mutation system-PCR method. The prevalence of the PON1 55MM genotype

was significantly greater among rheumatoid arthritis patients (17%) when compared to control subjects (5.2%) (odds ratio (OR) = 3.75; 95% confidence interval (CI) = 1.87-11.8, P = 0.025). In addition, the M allele was more frequent in rheumatoid arthritis patients (40%) than in healthy subjects (24.7%) (OR = 1.997; 95%CI = 1.243-3.210, P = 0.005). There were no significant differences in the -107C/T polymorphism in the promoter sequence of PON1 between rheumatoid arthritis and normal subjects ($\chi^2 = 0.861$, P = 0.650). In conclusion, the PON1 55MM genotype is a risk factor for rheumatoid arthritis.

Key words: Rheumatoid arthritis; L55M polymorphism; PON1; Paraoxonase