Genetic variation in the CRP promoter: association with systemic lupus erythematosus.

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**Abstract**
The pentraxin C-reactive protein (CRP), an innate immune system opsonin which binds nuclear debris and apoptotic bodies, may protect against autoimmunity. A relative deficiency of CRP levels in patients with systemic lupus erythematosus (SLE) might contribute to altered handling of self-antigens. We report that the proximal 5' promoter region of CRP contains several polymorphisms that exhibit association with SLE in multiple populations. Strongest association was observed at the proximal promoter single nucleotide polymorphism (SNP) rs3093061 (CRP-707) (P = 6.41 x 10(-7) and P = 2.13 x 10(-6) in African-American and Caucasian case-control samples respectively). This association remains after adjustment for admixture. Linkage disequilibrium exists between SNPs in the proximal promoter and association of functional haplotypes containing rs3091244/rs3093062 (CRP-409/-390) appear to be driven by the rs3093061 (CRP-707) association. These data demonstrate that rs3093061 at the -707 site within the CRP gene is an SLE susceptibility locus.

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