



## **A Genetic Polymorphism of Interleukin-4 Gene at Position-590 in Type-1 Diabetes of Iraqi Patients**

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**Abstract:** The aim of this study was to investigate a potential association of interleukin-4 polymorphisms with the susceptibility of type 1 diabetes (T1D) in Iraqi patients and between a single nucleotide polymorphism of interleukin-4 gene (*IL4*) at position-590 SNP. (T1D) was determined in 39 Iraqi patients, (12 males and 27 females;  $15.65 \pm 1.79$  years) as well as 21 controls. (7 male and 14 female;  $14.66 \pm 3.43$  years) by polymerase chain reaction-specific sequence primer (PCR-SSP) assay. The results revealed that comparing *IL4*-590 genotypes and alleles between T1D patients and controls show some significant variance. Among patients, it was shown that frequency of TT genotype and *T* allele (51.28 vs. 70.51%;  $P = 0.056$  respectively) were significantly rise in patients contrast to controls, (23.31 vs. 47.82%;  $P = 0.018$ ) and the related RR rates were 36.1 and 43.7, respectively. and the associated EF values were 3.37 and 2.63, respectively. In contrast, CC genotype and *C* allele (10.25 vs. 29.49 %,  $P = 0.143$  respectively) frequencies were significantly decreased in patients, compared to controls (28.57 vs. 52.38 %;  $P = 0.018$ ), and the associated PF values were 0.29 and 0.38, respectively. So as in the frequencies of TC genotype (38.46 vs. 47.61 %;  $RR = 14.9$ ;  $P = 0.587$ ) was high significant in controls compared to patients. It's the associated PF values were (0.69) related with T1D. These findings suggest that *IL4*-590 SNP might have an important role in protection against type 1 diabetes.

**Key words:** Polymorphism IL-4, Diabetes.

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