

## Association of IL22 Gene Polymorphisms in Positions, rs867810424 (A/G) and rs1390124543 (A/G) with Risk of Infertility in Women

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### ABSTRACT

**Introduction:** Infertility is very important socially and familiarly and has many factors that affect it. IL22 is an anti-inflammatory cytokine that has a dual role in the body. The aim of this study was to investigate the effect of rs867810424 (A/G) and rs1390124543 (A/G) polymorphisms on IL22 gene in infertility in southern Iran and comparing it with healthy individuals.

**Materials and methods:** In this case-control study, peripheral blood of 200 infertile patients and 200 healthy individuals were used for DNA extraction using Salting Out and Proteinase K. ARMPCR method was used to study the polymorphism of IL22 gene and genotypes. The results of the study were analyzed using SPSS24, Chi-square test and Hardy-Weinberg equilibrium.

**Findings:** The findings indicated that there was a significant relationship between the rs1390124543 and rs867810424 polymorphisms of the IL22 gene and the development of infertility in the genotypes, such that in the rs867810424 position in the patient group and genotypic frequency control with  $PV=0.001$  and in rs1390124543 and control of genotypic frequency with  $P=0.005$ . In the case of alleles in both patient and control groups, it was observed that there was no significant difference between the alleles and the two IL22 polymorphisms within infertility.

**Conclusion:** According to the results, it seems that expression of IL22 polymorphism in two positions and infertility is directly related to women in southern Iran. This relationship can be used as a biomarker for disease diagnosis.

**Keywords:** IL22, rs867810424, rs1390124543, Infertility

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