ABSTRACT

M.Sc. Thesis

IDENTIFICATION OF *NUCLEAR FACTOR-KAPPAB1* (*NF-κB1*) AND *NF-κBIA* POLYMORPHISMS BY PCR-RFLP TECHNIQUE IN A AYDIN POPULATION

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The aim of the present study was to determine the frequencies of polymorphisms of *nuclear factor-kappa* (*NF-κB1*) and *NF-κBIA* genes, which have shown to be related with several inflammatory diseases and cancer pathogenesis, using Polymerase Chain Reaction-Restriction Fragment Lentght polymorphism (PCR-RFLP) assay in the population of Aydın province.

For this aim, total genomic DNAs were isolated from periferal blood samples taken from a total of 565 healty volunteers living in Aydin Province. Genomic regions in questions were amplified by PCR technique and the polymorphisms in these regions were detected by RFLP assay. Results of the analyses showed that the frequency of the *NF-κB1* -94ins/delATTG del/del, del/ins and ins/ins genotypes were 10.3%, 49.1% and 40.6%, respectively. On the other hand, the genotype frequencies of the *NF-κBIA* 3'UTR A→G genotypes were as follows: genotype A/A: 19.2%, genotype A/G: 42.3% and genotype G/G: 38.5%. Distribution of genotype frequencies were tested by Hardy Weinberg test and results showed that while *NF-κB1* gene was in Hardy-Weinberg equilibrium (χ^2=3.402, p>0.05), *NF-κBIA* gene was not (χ^2=8.293, p<0.05).

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Key Words:

NF-κB1, NF-κBIA, PCR-RFLP, genetic polymorphism