

***LMP2 and LMP7 Gene Polymorphisms in the Southeastern
Anatolia Population of Turkey*****Filiz Ozbas-Gerceker* and Deniz Mihcioglu******Department of Biology, Faculty of Arts and Science, University of Gaziantep,
Gaziantep, Turkey*****KEYWORDS** *LMP2, LMP7, Polymorphism, Southeastern Anatolia, Genetic Distance*

ABSTRACT The low molecular weight polypeptide 2 (*LMP2*) and low molecular weight polypeptide 7 (*LMP7*) genes are located in the class II region of the Major Histocompatibility Complex (MHC) locus on chromosome 6. These genes encode peptides forming the large components of the proteasome complex which degrades short-lived cytoplasmic proteins. Analysis of the spectrum of the peptides generated, transported and presented; disease association studies and population genetic studies are important for understanding the functional effects of genetic variations in *LMP* genes. In this study, *LMP2* and *LMP7* gene polymorphisms were analyzed in Southeastern Anatolia population of Turkey. A total of 110 healthy and unrelated individuals participated in this study. Polymorphism analyses were done by Polymerase Chain Reaction (PCR) – Restriction Fragment Length Polymorphism (RFLP) method and allele/genotype frequencies of *LMP2* and *LMP7* genes were determined. A deviation from the Hardy-Weinberg equilibrium ($p < 0.05$) was found for the genotype distribution of *LMP2* gene polymorphism, while the *LMP7* genotypes found to be distributed in accordance with the Hardy-Weinberg equilibrium ($p > 0.05$). Available allele frequency data for different populations were used to calculate genetic distances and to construct a neighbor-joining tree. Among the included populations, Nahuas (Mexico) population was found to have the lowest genetic distance from the Southeastern Anatolia-Turkey population.