ISSN 0972-3757
International Journal of
HUMAN GENETICS

 Int J Hum Genet, 14(2): 101-105 (2014)

Molecular Analysis of Genetic Variation in Angiotensin I-Converting Enzyme Gene in Turkish Athletes

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KEYWORDS ACE Gene. Polymorphism. Athletic Ability. Genetic Variation. Polymerase Chain Reaction

ABSTRACT Genetic factors play an important role in physical performance. The angiotensin converting enzyme (ACE) gene polymorphism is the most studied genetic marker in the field of human performance. The aim of this study was to determine the impact of ACE (I/D) polymorphism on athletic ability in Turkish athletes. Genomic DNA obtained from 237 persons (120 athletes and 117 sedentary controls) was used in the study. ACE gene I/D polymorphism genotypes were determined by using polymerase chain reaction with the specific primers. Results revealed that the ACE genotype distribution was significantly different between athletes (II 16.7%, ID 43.3% and DD 40%) and sedentary groups (II 7.7%, ID 38.5% and DD 53.8 %; P=0.036). The D allele frequency was obserwed as 38.3 % and I allele was as 61.7 % in the athlets group, it was 26.92 % and 73.08 % respectively in the control group. As a result of our study, angiotensin converting enzyme gene I/D polymorphism D allele or DD genotype could affect athletic ability in Turkish study population.