

Gene polymorphism ACTN3 and ACE in selected gymnasts athletes in Brazil and Japan [Polimorfismo del Gen ACTN3 y ECA en Seleccionados de Gimnasia de Brasil y Japón]

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In the field of competitive sport, genetics has gained a fundamental role in the study of sport performance. The aim of this study was to analyze the prevalence of polymorphisms R577X and insertion/deletion (I/D), occurring in α -actinin-3 (ACTN3) and angiotensin converting enzyme (ACE) genes, respectively, in Brazilian and Japanese gymnasts. A suitable non-probabilistic sample of 73 gymnasts (14 from Japan) was recruited and signed an informed consent. To measure ACTN3 and ECA saliva samples were obtained by means of real time polymerase chain reaction (iQ5 Thermal Cycler, BioRad). A high prevalence of RX ACTN3 genotype, R allele, ACE I/D genotype, and D allele were observed in Brazilian and Japanese gymnasts. In conclusion a high prevalence of RX ACTN3 genotype, R allele and ACE I/D genotype would allow a genetic advantage regarding muscle strength and power, possibly facilitating competitive success in gymnastics. © 2015, Universidad de la Frontera. All rights reserved.

A-actinin-3

Angiotensin converting enzyme

Polymorphism

Sport performance

