



## A/G Gln20Arg (exon 1) and G/A Val156Met (exon 5) polymorphisms of the human orosomucoid 1 gene in Mexico

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**ABSTRACT.** The human orosomucoid 1 gene (ORM1) codes an alpha-1-acid glycoprotein that has been classified as an acute-phase reactive protein, and a major drug-binding serum component, as well as an immunomodulatory protein with genetic polymorphisms. Evaluation of ORM variation through isoelectric focusing and immunoblotting has revealed a world-wide distribution of the ORM1 F and ORM1 S alleles. We evaluated and examined the genetic characteristics of two Mexican populations that have different anthropo-

logical and cultural antecedents, examining two ORM1 genotypes (exon 1 - A/G (Gln20Arg) and exon 5 G/A (Val156Met)) in 145 individuals, using nested polymerase chain reaction, sequencing, and restricted fragment length polymorphism. Mexican Mestizos had higher frequencies of the exon 1 A allele ( $P = 0.020$ ) and AA genotype ( $P = 0.018$ ) and lower frequency of the G allele ( $P = 0.020$ ) when compared to Teenek Amerindians. When we examined exon 5 G/A (Val156Met) polymorphisms, we found significantly higher frequencies of the G allele ( $P = 0.0007$ ) and the GG genotype ( $P = 0.0003$ ) in the Mexican Mestizo population. The Teenek population had a significantly higher frequency of the A allele than has been reported for Chinese and African ( $P < 0.05$ ) populations, and the G/A genotype was more frequently found in this Mexican population than in Chinese, African and European populations ( $P < 0.05$ ).

**Key words:** Orosomucoid; Polymorphisms; Teenek Amerindians; Mexican populations; Allele specific polymerase chain reaction; Sequencing