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GST genes (GSTM1 and GSTT1) polymorphism in Georgian population**Maya N Gaiozishvili, Tinatin A Jokhadze, Tamar J Buadze, Tamar G Sigua and Teimuraz A Lezhava**
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The glutathione S-transferase (GST) enzyme system constitutes a family of multifunctional enzymes which play an important role in biotransformation and detoxification of many different xenobiotic. Human cytosolic GSTs are polymorphic and have ethnic-dependent polymorphism frequencies and have been associated with several types of diseases. The double-null variant of GSTM1 and GSTT1 are respectively associated with a higher risk of different forms of liver injury, cancer, cardiovascular diseases, etc. Comparisons between GST null genotype frequencies in the worldwide populations show different patterns in Asian, African and European populations. Some detailed studies of GST variants in various geographic regions can increase the knowledge about relationship between the ethnicity and the prevalence of certain diseases. Thus, it becomes necessary to consider the genotypic differences for reducing the risk of anti-tuberculosis drug-induced liver injury. The aim of our research was to determine the polymorphism of GSTM1 and GSTT1 genes in Georgian population. The GSTM1 and GSTT1 null genotypes were investigated with the help of an Ese-Quant tube scanner-by SmartAmp method. The study of GST genes polymorphism in Georgian population revealed that 88% of individuals have positive genotypes of GSTT1 and GSTM1, and 12% of individuals have null genotype only by one of this gene - GSTT1 or GSTM1. Out of these, GSTT1(-) null genotype was observed in 4% of individuals and GSTM1(-) in 8% of individuals. It should also be noted that there was not observed double null genotype (GSTT1(-), GSTM1(-)) in investigated group of individuals. In the next stage of our research we will investigate the relation between the null genotypes of GSTM1 and GSTT1 and risk of development drug-induced hepatotoxicity in TB patients from Georgian population. The results will have impact in personalized medicine, in the appointment and management of drugs and for prevention of adverse drug reactions in patients of Georgian population.

Biography

Maya N Gaiozishvili is an Assistant Professor at Department of Genetics, Ivane Javakhishvili Tbilisi State University, Georgia. The field of her interest is the personalized medicine, human genetics, exactly, aging and medical genetics. She is Investigator in grant projects, which concerns investigation of some genes polymorphism in Georgian population, also genetic parameters in different diseases.

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