The Variant Allele Frequency of *Gstp1 Rs1695* (313a>G) Polymorphism With Leukemia Susceptibility in the Saudi Arabian Population and Other Ethnic Groups

Raed A Alharbi, MSc, Ph.D*

ABSTRACT

Introduction: single nucleotide polymorphisms (SNPs) in exon 5 of the Glutathione-S-transferase Pi 1 (*GSTP1*) gene are directly associated with the progression and onset of leukemias. SNPs are common prognostic biomarkers for predicting and early onset of leukemia risk. The variant frequency of *GSTP1 rs1695* (313 A>G) polymorphisms may affect various ethnic groups differently. In this study, the allelic frequency distribution of *rs1695* (313 A>G) polymorphisms was assessed in the Saudi Arabian population and compared with other world populations.

Material and Methods: Data were extracted from case-control studies in several ethnic groups using PubMed (Medline) and similar web databases.

Results: The frequency of *GSTP1 rs16955* (313 A>G) variant allele (G) was observed at 29.5% and different frequencies were significantly found in Egypt ($p = 0.001$), and India ($p = 0.002$). The prevalence of the frequency of *GSTP1 rs16955* in the Saudi Arabian population was compared to that of other populations. The observed findings reveal a distinct pattern of *GSTP1 rs1695* (313 A>G) polymorphism variant allele in the populations of Saudi Arabia, possibly due to differences in race.

Conclusion: The observed findings can help assess the risk for the population harboring the risk allele of *rs1695* (313 A>G) SNP and their subsequent susceptibility to leukemia.

Keywords:GSTP1, rs1695, 313 A >G, Single nucleotide polymorphism, Leukemia.

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* Department of Laboratory Medicine
Faculty of Applied Medical Sciences
Al-Baha University, Albaha, Saudi Arabia.
Email: ralahrbi@bu.edu.sa