

# New ABCC2 RS3740066 and RS2273697 polymorphisms identified in a healthy colombian cohort

Bustos-Cruz R.H.

Martínez L.R.

García J.C.

Barreto G.E.

Suárez F.

Multidrug resistance-associated proteins (MRP) 1 and 2 belong to the ABC (ATP-Binding Cassette) transporters. These transport proteins are involved in the removal of various drugs and xenobiotics, as well as in multiple physiological, pathological, and pharmacological processes. There is a strong correlation between different polymorphisms and their clinical implication in resistance to antiepileptic drugs, anticancer, and anti-infective agents. In our study, we evaluated exon regions of MRP1 (ABCC1)/MRP2 (ABCC2) in a Colombian cohort of healthy subjects to determine single nucleotide polymorphisms (SNPs) and to determine the allelic and genomic frequency. Results showed there are SNPs in our population that have been previously reported for both MRP1/ABCC1 (rs200647436, rs200624910, rs150214567) and MRP2/ABCC2 (rs2273697, rs3740066, rs142573385, rs17216212). Additionally, 13 new SNPs were identified. Evidence also shows a significant clinical correlation for polymorphisms rs3740066 and rs2273697 in the transport of multiple drugs, which suggests a genetic variability in regards to that reported in other populations.

© 2018 by the authors. Licensee MDPI, Basel, Switzerland.

ATP-Binding-cassette (ABC)

Drug resistance

Genetic variability

MRP1 and MRP2

Polymorphisms

genomic DNA

multidrug resistance associated protein 1

multidrug resistance associated protein 2

ABCC1 gene

ABCC2 gene

amplicon

Article

Colombian

DNA sequence

exon

female

gene amplification

gene frequency

human

male

polymerase chain reaction

sequence analysis

single nucleotide polymorphism