

Frequency of Polymorphism of Mrp1/Abcc1 And Mrp2/Abcc2 in Healthy Volunteers of the Center Savannah (Colombia)

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Abstract : MRP1 (Multi-drug resistance associated protein 1) and MRP2 (Multi-drug resistance associated protein 2) are two proteins belonging to the transporters of ABC (ATP-Binding Cassette). These transporter proteins are involved in the efflux of several biological drugs and xenobiotic and also in multiple physiological, pathological and pharmacological processes. Evidence has been found that there is a correlation among different polymorphisms found and their clinical implication in the resistance to antiepileptic, chemotherapy and anti-infectious drugs. In our study, exonic regions of MRP1/ABCC1 y MRP2/ABCC2 were studied in the Colombian population, specifically in the region of the central Savannah (Cundinamarca) to determinate SNP (Single Nucleotide Polymorphisms) and determinate its allele frequency and its genomics frequency. Results showed that for our population, SNP are found that have been previously reported for MRP1/ABCC1 (rs200647436, rs200624910, rs150214567) as well as for MRP2/ABCC2 (rs2273697, rs3740066, rs142573385, rs17216212). In addition, 13 new SNP were identified. Evidences show an important clinic correlation for polymorphisms rs3740066 and rs2273697. The study object population displays genetic variability as compared to the one reported in other populations.

Keywords : ATP-binding cassette (ABCC), Colombian population, multidrug-resistance protein (MRP), pharmacogenetic, single nucleotide polymorphism (SNP)

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