



Frequency of *MDR1* single nucleotide polymorphisms in a Jordanian population, including a novel variant

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ABSTRACT. The multidrug resistance gene (*MDR1* or *ABCB1*) codes for P-glycoprotein, which plays an important role in regulating absorption, distribution, and elimination of drugs. We examined *MDR1* gene variants in 100 unrelated subjects from various regions of Jordan. The *MDR1* gene was scanned using direct sequencing. Six rare variants in *MDR1* were detected, including a new variant, T3075A. This variant did not affect the protein sequence (synonym for threonine). Among the common SNPs, the frequencies of rs1128503 (C1236T) genotypes were: 0.23 (CC), 0.41 (CT) and 0.36 (TT). For the rs2032582 (G2677T) SNP, genotype frequencies were 0.38 for GG, 0.45 for GT, 0.13 for TT, 0.03 for GA, and 0.01 for TA, whereas for rs1045642 (C3435T), genotype frequencies were 0.17 for CC, 0.5 for CT and 0.33 for TT. The observed distribution of the common variants in the Jordanian population was within the range detected in other populations. These data on *MDR1* gene variants in the Jordanian population will be useful for investigations on response to P-glycoprotein substrate drugs.

Key words: *MDR1*; SNP; Jordan; Allele; Gene