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Frequency of common MDR1 gene variants in a Polish population

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Abstract:
P-glycoprotein (P-gp) is a transmembrane transporter playing an important role in drug efflux. There is growing evidence that P-gp activity may be related to haplotypes of *MDR1* gene. In the current study, the frequencies of common functional polymorphisms in *MDR1* gene (2677G > A,T and 3435C > T) were evaluated using PCR-RFLP and allele-specific amplification, in a group of 204 healthy individuals of Caucasian origin from Poland. It was found that the frequencies of the studied single nucleotide polymorphisms were similar to those reported for other Caucasian populations, and were as follows: 2677G-3435C – 0.453, 2677G-3435T – 0.143, 2677T-3435C – 0.015, 2677T-3435T – 0.370, 2677A-3435C – 0.008, 2677A-3435T – 0.011. The results of our study may give the basis for predicting pharmacokinetic and pharmacodynamic effects of many commonly used drugs in the Polish population.

Key words:
pharmacogenetics, MDR1, P-glycoprotein, genetic polymorphism, MDR1 haplotypes