**Table 1. Sequence of primers for polymerase chain reaction of the single nucleotide variants**

|  |  |
| --- | --- |
| **Single nucleotide variant** | **Primer sequence (F; R)** |
| rs3755319 of the *UGT1A1* gene | 5’-ATCTTTCCCTTTTGACTTCTG-3’;  5’-GGAAACCAAATAGATAAGCA-3’ |
| rs4148325 of the *UGT1A1* gene | 5’- AATTTAAGTAAGCCATTTACCAG -3’;  5’- TGGTTTTTCTGAACTCCTT -3’ |
| rs2328136 of the *NUP153*-AS gene | 5’- GTTATACGTAGAGGAGATTAATCG -3’;  5’- TCAAAGAATAGCCTCCAA -3’ |
| rs16928809 of the *SLC22A18* gene | 5’- TGCTCAGCTGCTGAGAGGAAGTCG -3’;  5’- AACTGTCACCATTGCCTCCTGGGG -3’ |

**Table 2. Polymerase chain reaction conditions for the single nucleotide variants**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Single nucleotide variant** | **Mixture for PCR** | **PCR conditions** | **Restrictase** | **Genotype – lengths of products after restriction, n.p.** |
| rs3755319 | 12.5 mcL of the BioMaster LR HS-PCR-Color (2×) reaction mixture (BIOLABMIX, Novosibirsk), each primer 1.4 мМ, 1.0 мМ MgCl2, DNA 2 mcg | 35 cycles: 95 °С 30 s, 56 °С 30 s, 72 °С 30 s | Ksp22I | CC – 122,  AC – 122, 120, 20  AA – 102, 20 |
| rs4148325 | Tris-HCl (pH 9.0) 75 мM, (NH4)2SO4 20 мM, Тween-20 0.01%, 3.5 мМ MgCl2, each primer 1.2 мМ, 0.2 мМ of the dNTP mixture, DNA 2 mcg, DNA polymerase 1 unit of activity | 35 cycles: 95 °С 30 s, 56 °С 30 s, 72 °С 30 s | AspLEI | TT – 144,  CT – 144, 119, 25  CC – 119, 25 |
| rs2328136 | 12.5 mcL of the BioMaster LR HS-PCR-Color (2×) reaction mixture (BIOLABMIX, Novosibirsk), each primer 1.2 мМ, MgCl2 1.0 мМ, DNA 2 mcg | 35 cycles: 95 °С 30 s, 54 °С 30 s, 72 °С 40 s | TaqI | GG – 135,  AG – 135, 113, 22  AA – 113, 22 |
| rs16928809 | 12.5 mcL of the BioMaster LR HS-PCR-Color (2×) reaction mixture (BIOLABMIX, Novosibirsk), each primer 1.0 мМ, DNA 2 mcg | 35 cycles: 95 °С 30 s, 62 °С 30 s, 72 °С 30 s | TaqI | GG – 146,  GA – 146, 124, 22  AA – 124, 22 |

N.p., nucleotide pair; PCR, polymerase chain reaction

**Table 3. The frequencies of genotypes and alleles rs3755319, rs4148325 of the *UGT1A1* gene, rs2328136 of the *NUP153-AS* gene, and rs16928809 of the *SLC22A18* gene in the group with Gilbert's syndrome and in the control group**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Single nucleotide variant** | **Genotype / allele** | **GS group (n = 414)** |  | **Control group (n = 381)** | |
|  | **%** | **n** | **%** |
| rs3755319 | СС | 350 | 84.5 | 79 | 20.7 |
| АС | 52 | 12.6 | 182 | 47.8 |
| АА | 12 | 2.9 | 120 | 31.5 |
| rs4148325 | ТТ | 63 | 71.6 | 7 | 8.9 |
| СТ | 22 | 25.0 | 32 | 40.5 |
| СС | 3 | 3.4 | 40 | 50.6 |
| rs2328136 | GG | 282 | 68.1 | 232 | 61.0 |
| AG | 126 | 30.4 | 136 | 35.8 |
| AA | 6 | 1.5 | 13 | 3.2 |
| rs16928809 | GG | 383 | 92.5 | 341 | 89.5 |
| GA | 31 | 7.5 | 40 | 10.5 |
| AA | 0 | 0 | 0 | 0 |

GS, Gilbert's syndrome

**Table 4. The concentrations of total and unconjugated bilirubin depending on the genotype of rs3755319 of the *UGT1A1* gene**

|  |  |  |
| --- | --- | --- |
| **Genotype rs3755319** | **Total bilirubin, Me [Q25; Q75], mcmol/L** | **Unconjugated bilirubin, Me [Q25; Q75], mcmol/L** |
| СС | 37.2 [27.5; 44.0] | 30.1 [21.1; 37.1] |
| АС + АА | 31.6 [25.0; 35.3] | 25.1 [19.5; 28.9] |
| р | 0.003 | 0.012 |

Me, median; Q25, 25th percentile; Q75, 75th percentile