**Supplementary Tables S1–S3**

**Supplementary Table S1.** Prediction of nsSNPs' effect on PDX1 protein structure and function using SIFT, PolyPhen2, FATHMM, and PROVEAN tools.

| SNP information | | | | SIFT | | POLYPHEN2 | | FATHMM | | PROVEAN | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SNP ID | alleles | a. a mutation * | MAF** | PREDICTION | SCORE | PREDICTION | SCORE | PREDICTION | SCORE | PREDICTION | SCORE |
| rs80356661 | G>T | E164D | T=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | - 4.05 | Deleterious | -2.817 |
| rs80356662 | G>A | E178K | A=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.04 | Deleterious | -3.933 |
| rs137852783 | G>T | D76Y | A=0.00331/183 | AFFECT | 0.00 | probably damaging | 0.986 | DAMAGE | -2.21 | Deleterious | -3.049 |
| rs137852785 | T>C | C18R | C=0.000138/5 | AFFECT | 0.00 | probably damaging | 0.999 | DAMAGE | -2.09 | Deleterious | -4.443 |
| rs137852785 | T>G | C18G | C=0.000138/5 | AFFECT | 0.01 | probably damaging | 0.998 | DAMAGE | -2.17 | Deleterious | -3.911 |
| rs137852786 | G>A | R197H | A=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.43 | Deleterious | -4.944 |
| rs137852786 | G>T | R197L | A=0./0 | AFFECT | 0.00 | probably damaging | 0.984 | DAMAGE | -4.54 | Deleterious | -6.922 |
| rs192902098 | C>A | P33T | G=0.00006/2 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -3.12 | Deleterious | -4.321 |
| rs192902098 | C>T | P33S | G=0.00006/2 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -3.12 | Deleterious | -4.129 |
| rs193922355 | C>G | R148G | A=0.000007/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.24 | Deleterious | -6.806 |
| rs193922356 | A>C | K191Q | C=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -3.97 | Deleterious | -3.956 |
| rs387906777 | A>G | E178G | NA*** | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.17 | Deleterious | -6.883 |
| rs564129447 | C>A | P71T | A=0.000304/7 | AFFECT | 0.03 | probably damaging | 0.985 | DAMAGE | -2.72 | Deleterious | -2.768 |
| rs767363575 | C>A | P33H | T=0.000028/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -3.14 | Deleterious | -4.722 |
| rs767363575 | C>T | P33L | T=0.000028/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -3.11 | Deleterious | -5.559 |
| rs771543377 | A>C | N196T | C=0.000002/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -5.81 | Deleterious | -5.933 |
| rs773768784 | C>A | R198S | A=0.000008/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -5.50 | Deleterious | -5.926 |
| rs773768784 | C>T | R198C | A=0.000008/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -5.51 | Deleterious | -7.902 |
| rs936861677 | T>A | L36Q | G=0.00004/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.64 | Deleterious | -2.714 |
| rs936861677 | T>C | L36P | G=0.00004/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.64 | Deleterious | -2.941 |
| rs1169068861 | A>C | E162A | C=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.53 | Deleterious | -5.600 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| rs1175289727 | A>C | D226A | C=0.000002/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.73 | Deleterious | -3.000 |
| rs1333313782 | A>T | D16V | T=0.0000007/1 | AFFECT | 0.02 | probably damaging | 0.982 | DAMAGE | -2.31 | Deleterious | -2.858 |
| rs1342320098 | A>G | D64G | NA | AFFECT | 0.02 | probably damaging | 1.000 | DAMAGE | -2.53 | Deleterious | -3.388 |
| rs1358532247 | A>T | Q21L | T=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.30 | Deleterious | -2.948 |
| rs1555241857 | A>C | N168H | NA | AFFECT | 0.03 | probably damaging | 1.000 | DAMAGE | -4.03 | Deleterious | -4.383 |
| rs1957809431 | G>T | E178D | T=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.10 | Deleterious | -2.950 |
| rs1957810066 | G>C | R198P | T=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -5.51 | Deleterious | -6.914 |
| rs1957810066 | G>T | R198L | T=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -5.50 | Deleterious | -6.914 |
| rs2500200525 | G>T | W121C | A=0.000001/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -3.28 | Deleterious | -10.783 |
| rs2500206125 | C>T | R150C | NA | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -5.53 | Deleterious | -7.778 |
| rs2500206217 | A>G | K163R | NA | AFFECT | 0.03 | probably damaging | 1.000 | DAMAGE | -3.96 | Deleterious | -2.817 |
| rs2500206329 | G>A | R176Q | NA | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.39 | Deleterious | -3.933 |
| rs2500206458 | T>C | I190T | NA | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.73 | Deleterious | -4.944 |
| rs202159230 | T>G | L185W | G=0.000007/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.96 | Deleterious | -5.933 |
| rs565726855 | C>A | T151K | T=0.000007/1 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -4.30 | Deleterious | -5.833 |
| rs565726855 | C>T | T151M | T=0.000007/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.35 | Deleterious | -5.833 |
| rs747825143 | C>G | P223A | T=0./0 | AFFECT | 0.05 | probably damaging | 0.978 | DAMAGE | -2.96 | Deleterious | -2.607 |
| rs761107416 | A>T | D206V | T=0.000008/1 | AFFECT | 0.01 | probably damaging | 0.983 | DAMAGE | -2.69 | Deleterious | -3.206 |
| rs764675125 | C>A | H128Q | G=0./0 | AFFECT | 0.02 | probably damaging | 1.000 | DAMAGE | -2.74 | Deleterious | -5.555 |
| rs764810731 | A>G | M122V | T=0.00001/1 | AFFECT | 0.00 | probably damaging | 0.997 | DAMAGE | -2.97 | Deleterious | -3.363 |
| rs765466519 | T>A | Y170N | A=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.27 | Deleterious | -8.539 |
| rs771445149 | G>A | R209H | A=0./0 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -2.77 | Deleterious | -3.683 |
| rs2500199386 | G>A | C35Y | A=0.0000007/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.41 | Deleterious | -5.725 |
| rs2500199821 | A>G | Y68C | G=0.000001/1 | AFFECT | 0.00 | probably damaging | 0.970 | DAMAGE | -2.66 | Deleterious | -3.340 |
| rs2500200512 | C>A | F119L | NA | AFFECT | 0.00 | probably damaging | 0.996 | DAMAGE | -2.89 | Deleterious | -4.845 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| rs2500200523 | T>A | W121R | A=0.000002/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -3.25 | Deleterious | -11.653 |
| rs2500200544 | G>T | M122I | T=0.000002/1 | AFFECT | 0.01 | probably damaging | 0.997 | DAMAGE | -3.01 | Deleterious | -3.337 |
| rs2500200548 | T>C | S124P | C=0.000003/2 | AFFECT | 0.02 | probably damaging | 0.998 | DAMAGE | -2.89 | Deleterious | -2.948 |
| rs2500200554 | C>T | T125I | T=0.000004/3 | AFFECT | 0.03 | probably damaging | 1.000 | DAMAGE | -2.66 | Deleterious | -4.376 |
| rs2500206074 | A>C | K147Q | NA | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.20 | Deleterious | -3.889 |
| rs2500206074 | A>G | K147E | NA | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.17 | Deleterious | -3.889 |
| rs2500206127 | G>T | R150L | T=0.000002/1 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -5.50 | Deleterious | -6.806 |
| rs2500206160 | C>A | T154K | A=0.0000007/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.13 | Deleterious | -5.333 |
| rs2500206199 | T>G | L159R | G=0.0000007/1 | AFFECT | 0.03 | probably damaging | 1.000 | DAMAGE | -3.85 | Deleterious | -5.633 |
| rs2500206228 | T>A | F165Y | A=0.000001/1 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -5.56 | Deleterious | -2.817 |
| rs2500206314 | G>T | R173L | T=0.000001/1 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -3.93 | Deleterious | -6.875 |
| rs2500206326 | C>T | R176W | T=0.000001/1 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -4.41 | Deleterious | -7.867 |
| rs2500206364 | C>G | A180G | G=0.000001/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.86 | Deleterious | -3.884 |
| rs2500206438 | G>A | E187K | A=0.000001/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.13 | Deleterious | -3.862 |
| rs2500206466 | G>C | W193C | NA | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -6.94 | Deleterious | -12.856 |
| rs2500206510 | G>T | W201L | T=0.000002/1 | AFFECT | 0.05 | probably damaging | 0.993 | DAMAGE | -3.96 | Deleterious | -11.091 |
| rs2500206527 | A>G | E204G | G=0.000002/1 | AFFECT | 0.00 | probably damaging | 0.995 | DAMAGE | -3.80 | Deleterious | -5.335 |
| rs771445149 | G>C | R209P | A=0./0 | AFFECT | 0.00 | probably damaging | 0.998 | DAMAGE | -2.79 | Deleterious | -3.978 |
| rs771445149 | G>T | R209L | A=0./0 | AFFECT | 0.02 | probably damaging | 0.983 | DAMAGE | -2.73 | Deleterious | -4.622 |
| rs781025559 | G>T | G137C | T=0./0 | AFFECT | 0.04 | probably damaging | 1.000 | DAMAGE | -3.84 | Deleterious | -3.649 |
| rs948183052 | G>T | L185F | A=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.94 | Deleterious | -3.956 |
| rs1045275852 | C>G | R209G | T=0./0 | AFFECT | 0.01 | probably damaging | 0.983 | DAMAGE | -2.73 | Deleterious | -4.606 |
| rs1045275852 | C>T | R209C | T=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.82 | Deleterious | -4.941 |
| rs1055958773 | G>C | K203N | C=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.13 | Deleterious | -4.899 |
| rs1210186252 | C>G | R22G | NA | AFFECT | 0.00 | probably damaging | 0.999 | DAMAGE | -2.31 | Deleterious | -2.684 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| rs1229246846 | C>G | R197G | G=0./0 | AFFECT | 0.00 | probably damaging | 0.992 | DAMAGE | -4.54 | Deleterious | -6.922 |
| rs1245215769 | G>A | R188K | C=0./0 | AFFECT | 0.01 | probably damaging | 0.998 | DAMAGE | -3.95 | Deleterious | -2.792 |
| rs1245215769 | G>C | R188T | C=0./0 | AFFECT | 0.04 | probably damaging | 1.000 | DAMAGE | -4.03 | Deleterious | -5.600 |
| rs1245281170 | C>T | P32L | T=0.000007/1 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -2.55 | Deleterious | -4.782 |
| rs1278981936 | C>G | C18W | A=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.21 | Deleterious | -4.205 |
| rs1297553641 | C>T | S172L | T=0./0 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.04 | Deleterious | -5.035 |
| rs1300494277 | C>T | P67L | T=0.0000015/2 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -2.54 | Deleterious | -3.864 |
| rs1352474312 | C>A | P71H | G=0./0 | AFFECT | 0.02 | probably damaging | 0.999 | DAMAGE | -2.76 | Deleterious | -2.840 |
| rs1352474312 | C>G | P71R | G=0./0 | AFFECT | 0.02 | probably damaging | 0.995 | DAMAGE | -2.75 | Deleterious | -3.188 |
| rs1384588250 | C>T | S231F | NA*** | AFFECT | 0.00 | probably damaging | 0.999 | DAMAGE | -2.81 | Deleterious | -3.491 |
| rs1456103730 | G>T | R155L | T=0.0000029/4 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.76 | Deleterious | -6.206 |
| rs1466692234 | G>T | D226Y | A=0.000031/1 | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -2.28 | Deleterious | -4.483 |
| rs1478081393 | T>G | W134G | G=0.000002/1 | AFFECT | 0.02 | probably damaging | 0.988 | DAMAGE | -2.58 | Deleterious | -8.402 |
| rs1957771331 | A>G | Y8C | G=0./0 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -2.18 | Deleterious | -3.935 |
| rs1957777698 | T>A | M122K | A=0.000031/1 | AFFECT | 0.00 | probably damaging | 0.999 | DAMAGE | -3.05 | Deleterious | -5.170 |
| rs1957809088 | T>C | F167L | C=0./0 | AFFECT | 0.01 | probably damaging | 1.000 | DAMAGE | -3.87 | Deleterious | -5.633 |
| rs1957809157 | C>A | N168K | G=0.000031/1 | AFFECT | 0.01 | probably damaging | 0.999 | DAMAGE | -4.01 | Deleterious | -5.167 |
| rs2137506152 | C>T | R173W | NA | AFFECT | 0.00 | probably damaging | 1.000 | DAMAGE | -4.02 | Deleterious | -7.858 |
| rs2500198954 | A>G | Y14C | G=0.000001/1 | AFFECT | 0.00 | probably damaging | 0.999 | DAMAGE | -2.17 | Deleterious | -3.443 |
| rs2500199385 | T>G | C35G | G=0.0000075/10 | AFFECT | 0.00 | probably damaging | 0.999 | DAMAGE | -2.40 | Deleterious | -6.053 |

*a. a mutation: amino acid mutation **MAF: Minor Allele Frequency ***NA: not available.

**Supplementary Table S2.** Prediction of PDX1 gene nsSNPs disease association using SNPS & GO and PhD-SNP tools.

| SNP information | | | | PhD-SNP | | SNP and GO | |
|---|---|---|---|---|---|---|---|
| SNP ID | alleles | a. a mutation* | MAF** | EFFECT | RI*** | EFFECT | RI*** |
| rs80356661 | G>T | E164D | T=0./0 | DISEASE | 6 | DISEASE | 9 |
| rs80356662 | G>A | E178K | A=0./0 | DISEASE | 5 | DISEASE | 9 |
| rs137852785 | T>C | C18R | C=0.000138/5 | DISEASE | 4 | DISEASE | 8 |
| rs137852785 | T>G | C18G | C=0.000138/5 | DISEASE | 4 | DISEASE | 6 |
| rs137852786 | G>A | R197H | A=0./0 | DISEASE | 7 | DISEASE | 8 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| rs137852786 | G>T | R197L | A=0./0 | DISEASE | 6 | DISEASE | 9 |
| rs193922355 | C>G | R148G | A=0.000007/1 | DISEASE | 2 | DISEASE | 9 |
| rs773768784 | C>A | R198S | A=0.000008/1 | DISEASE | 9 | DISEASE | 7 |
| rs773768784 | C>T | R198C | A=0.000008/1 | DISEASE | 6 | DISEASE | 7 |
| rs1169068861 | A>C | E162A | C=0./0 | DISEASE | 3 | DISEASE | 8 |
| rs1555241857 | A>C | N168H | NA**** | DISEASE | 1 | DISEASE | 7 |
| rs1957809431 | G>T | E178D | T=0./0 | DISEASE | 5 | DISEASE | 8 |
| rs1957810066 | G>C | R198P | T=0./0 | DISEASE | 9 | DISEASE | 8 |
| rs1957810066 | G>T | R198L | T=0./0 | DISEASE | 6 | DISEASE | 8 |
| rs2500200525 | G>T | W121C | A=0.000001/1 | DISEASE | 8 | DISEASE | 9 |
| rs2500206125 | C>T | R150C | NA | DISEASE | 7 | DISEASE | 9 |
| rs2500206217 | A>G | K163R | NA | DISEASE | 4 | DISEASE | 7 |
| rs2500206329 | G>A | R176Q | NA | DISEASE | 7 | DISEASE | 9 |
| rs202159230 | T>G | L185W | G=0.000007/1 | DISEASE | 6 | DISEASE | 9 |
| rs565726855 | C>A | T151K | T=0.000007/1 | DISEASE | 4 | DISEASE | 7 |
| rs565726855 | C>T | T151M | T=0.000007/1 | DISEASE | 2 | DISEASE | 4 |
| rs764675125 | C>A | H128Q | G=0./0 | DISEASE | 1 | DISEASE | 5 |
| rs764675125 | C>G | H128Q | G=0./0 | DISEASE | 1 | DISEASE | 5 |
| rs764810731 | A>G | M122V | T=0.00001/1 | DISEASE | 6 | DISEASE | 8 |
| rs765466519 | T>A | Y170N | A=0./0 | DISEASE | 1 | DISEASE | 9 |
| rs771445149 | G>C | R209P | A=0./0 | DISEASE | 3 | DISEASE | 7 |
| rs781025559 | G>T | G137C | T=0./0 | DISEASE | 8 | DISEASE | 2 |
| rs948183052 | G>T | L185F | A=0./0 | DISEASE | 5 | DISEASE | 9 |
| rs1045275852 | C>G | R209G | T=0./0 | DISEASE | 3 | DISEASE | 2 |
| rs1045275852 | C>T | R209C | T=0./0 | DISEASE | 3 | DISEASE | 5 |
| rs1055958773 | G>C | K203N | C=0. /0 | DISEASE | 4 | DISEASE | 7 |
| rs1229246846 | C>G | R197G | G=0. /0 | DISEASE | 8 | DISEASE | 8 |
| rs1245215769 | G>A | R188K | C=0. /0 | DISEASE | 6 | DISEASE | 9 |
| rs1245215769 | G>C | R188T | C=0. /0 | DISEASE | 1 | DISEASE | 9 |
| rs1278981936 | C>G | C18W | A=0. /0 | DISEASE | 6 | DISEASE | 7 |
| rs1297553641 | C>T | S172L | T=0. /0 | DISEASE | 4 | DISEASE | 7 |
| rs1478081393 | T>G | W134G | G=0.000002/1 | DISEASE | 3 | DISEASE | 5 |
| rs1957771331 | A>G | Y8C | G=0. /0 | DISEASE | 0 | DISEASE | 6 |
| rs1957777698 | T>A | M122K | A=0.000031/1 | DISEASE | 9 | DISEASE | 9 |
| rs1957809088 | T>C | F167L | C=0. /0 | DISEASE | 3 | DISEASE | 8 |
| rs1957809157 | C>A | N168K | G=0.000031/1 | DISEASE | 5 | DISEASE | 7 |
| rs2137506152 | C>T | R173W | NA | DISEASE | 7 | DISEASE | 9 |
| rs2500198954 | A>G | Y14C | G=0.000001/1 | DISEASE | 1 | DISEASE | 7 |
| rs2500200512 | C>A | F119L | NA | DISEASE | 6 | DISEASE | 4 |
| rs2500200523 | T>A | W121R | A=0.000002/1 | DISEASE | 9 | DISEASE | 9 |
| rs2500200544 | G>T | M122I | T=0.000002/1 | DISEASE | 5 | DISEASE | 8 |
| rs2500200548 | T>C | S124P | C=0.000003/2 | DISEASE | 7 | DISEASE | 7 |
| rs2500206127 | G>T | R150L | T=0.000002/1 | DISEASE | 3 | DISEASE | 9 |
| rs2500206160 | C>A | T154K | A=0.0000007/1 | DISEASE | 8 | DISEASE | 9 |
| rs2500206199 | T>G | L159R | G=0.0000007/1 | DISEASE | 5 | DISEASE | 8 |
| rs2500206228 | T>A | F165Y | A=0.000001/1 | DISEASE | 6 | DISEASE | 9 |
| rs2500206314 | G>T | R173L | T=0.000001/1 | DISEASE | 4 | DISEASE | 10 |
| rs2500206326 | C>T | R176W | T=0.000001/1 | DISEASE | 6 | DISEASE | 9 |
| rs2500206438 | G>A | E187K | A=0.000001/1 | DISEASE | 7 | DISEASE | 9 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| rs2500206466 | G>C | W193C | NA | DISEASE | 8 | DISEASE | 7 |

*a. a mutation: amino acid mutation **MAF: Minor Allele Frequency ***RI: Reliability Index ****NA: not available.

**Supplementary Table S3.** Prediction of nsSNPs effect on PDX1 protein stability using I-Mutant2.0, MuPro, and DynaMut2 tools.

| SNP information | | | I-Mutant | | MUPROT | | DYNAMUT2 | |
|---|---|---|---|---|---|---|---|---|
| SNP ID | alleles | a. a mutation* | stability | RI** | stability | RI** | Prediction | KCAL/MOL |
| rs80356661 | G>T | E164D | DECREASE | 3 | DECREASE | 3 | DESTABILISING | -0.91 |
| rs80356662 | G>A | E178K | DECREASE | 8 | DECREASE | 8 | DESTABILISING | -0.44 |
| rs193922355 | C>G | R148G | DECREASE | 4 | DECREASE | 4 | DESTABILISING | -0.33 |
| rs773768784 | C>A | R198S | DECREASE | 8 | DECREASE | 8 | DESTABILISING | -2.28 |
| rs773768784 | C>T | R198C | DECREASE | 6 | DECREASE | 6 | DESTABILISING | -1.59 |
| rs1555241857 | A>C | N168H | DECREASE | 9 | DECREASE | 9 | DESTABILISING | -0.56 |
| rs1957810066 | G>C | R198P | DECREASE | 8 | DECREASE | 8 | DESTABILISING | -0.08 |
| rs1957810066 | G>T | R198L | DECREASE | 7 | DECREASE | 7 | DESTABILISING | -0.63 |
| rs2500206217 | A>G | K163R | DECREASE | 4 | DECREASE | 4 | DESTABILISING | -0.89 |
| rs2500206329 | G>A | R176Q | DECREASE | 9 | DECREASE | 9 | DESTABILISING | -0.98 |
| rs202159230 | T>G | L185W | DECREASE | 8 | DECREASE | 8 | DESTABILISING | -2.13 |
| rs565726855 | C>A | T151K | DECREASE | 4 | DECREASE | 4 | DESTABILISING | -0.26 |
| rs764810731 | A>G | M122V | DECREASE | 6 | DECREASE | 6 | DESTABILISING | -0.61 |
| rs764810731 | A>T | M122L | DECREASE | 3 | DECREASE | 3 | DESTABILISING | -1.42 |
| rs765466519 | T>A | Y170N | DECREASE | 7 | DECREASE | 7 | DESTABILISING | -0.39 |
| rs948183052 | G>T | L185F | DECREASE | 9 | DECREASE | 9 | DESTABILISING | -1.63 |
| rs1045275852 | C>G | R209G | DECREASE | 6 | DECREASE | 6 | DESTABILISING | -0.33 |
| rs1229246846 | C>G | R197G | DECREASE | 8 | DECREASE | 8 | DESTABILISING | -1.99 |
| rs1245215769 | G>A | R188K | DECREASE | 9 | DECREASE | 9 | DESTABILISING | -0.26 |
| rs1278981936 | C>G | C18W | DECREASE | 6 | DECREASE | 6 | DESTABILISING | -0.48 |
| rs1478081393 | T>G | W134G | DECREASE | 8 | DECREASE | 8 | DESTABILISING | -0.5 |
| rs1957777698 | T>A | M122K | DECREASE | 6 | DECREASE | 6 | DESTABILISING | -1.1 |
| rs2137506152 | C>T | R173W | DECREASE | 8 | DECREASE | 8 | DESTABILISING | -0.18 |
| rs2500200512 | C>A | F119L | DECREASE | 6 | DECREASE | 6 | DESTABILISING | -1.17 |
| rs2500200544 | G>T | M122I | DECREASE | 2 | DECREASE | 2 | DESTABILISING | -1.63 |
| rs2500206228 | T>A | F165Y | DECREASE | 3 | DECREASE | 3 | DESTABILISING | -0.25 |
| rs2500206438 | G>A | E187K | DECREASE | 7 | DECREASE | 7 | DESTABILISING | -0.49 |
| rs2500206466 | G>C | W193C | DECREASE | 7 | DECREASE | 7 | DESTABILISING | -0.0 |

*a. a mutation: amino acid mutation **RI: Reliability Index.