Supplement   Procession   Pro	SND I	Dotaile	Provean	DolyDhon	2		hD-SNP	FATHM	NA.	I DANTU	ED DEED	HUMA
Fig. 12												
### 160			None	None			None					
MISS   10   -1-046   possibly demarking   0.004   One-see   1.005   Tribute   1.00												
GRAS 14 - 2.577 deorge many months of the common of the co							5					
Table   10   3.33   Johnson   June   1.10   June					- /		4					
238   23   4.3   probably damaging   0,997   Disease   1   0   0   0   0   0   0   0   0   0				•			2					
ASSES  25 - 3.17   probably damaging   0,941   Disease   0.044   0.044   1.5   17.0   processly damaging   0,941   Disease   0.044   0.044   1.5   17.0   processly damaging   0,941   Disease   0.044   0.044   1.5   17.0   processly peliging   0.045   0												
Section   Sect												
AST   13   ASR   person   Ass   As												
1005   1,000			_				3	DAMAGING			, , ,	
1.550   35   3.713 probably demarging   1   Disease   1   DAMAGNIC   2.35   4.55 probably demarging   1   Disease   1   DAMAGNIC   2.76   4.6							1				, , ,	
Section   1.5   1.4.5   1.5												
1938   39   7.46 probably damaging   1   Disease   1   DAMAGINO   2.31   466 probably damaging   1   Disease   1   DAMAGINO   2.77   4.55 probably damaging   1   Disease   1   DAMAGINO   2.78   2.55 probably damaging					1							
Liber   448   4.51   Sossibly damaging   0.922   Disease   0.944   0.944   0.945   Disease   0.925   Disease   0.926   Disease   0.944   0.945   Disease   0.946   Disease					1							
VAM   Add   0.756   bengin   0.025   Neutral   4   0.000   0												
NATH   47   2-88 protebyl damaging   0.989   Drease   7   DAMAGNON   2-25   91   probably beging   1.650   Drease   1.650												
EARK   48   1.07   Design												
SABO   46   -5.81 bough												
CSTR					-,							
See				•	0,033						, , ,	
Sept					1 0.964							
GEORE   60   0.162   ossably damaging   0.778   Neutral   1   0.AMACING   2.26   51   procably beging   0.65   Neutral   1   0.AMACING   2.26   1.76   procably beging   0.777   7.67   0.65   Design   0.000   Neutral   1   0.AMACING   2.27   1.76   procably beging   0.77   Neutral   1   0.AMACING   2.21   2.25   0.							3		_			
New York   Section   Common	G60R	60	0,162	possibly damaging	0,779	Neutral	1	DAMAGING	-2,25	91	probably begign	
Description							1					
F87L   67					Ū		3					
PRINCE   10   10   10   10   10   10   10   1												
P711		69	-9,292	probably damaging	1					456	probably damaging	
O374   73   None   O474   74   3,348 probably damaging   0,988 Disease   DAMAGING -1,55   220 possibly damaging   0,988 Disease   DAMAGING -1,53   324 possibly damaging   0,988 Disease   DAMAGING -1,53   324 possibly damaging   0,988 Disease   DAMAGING -1,53   324 possibly damaging   0,988 Disease   DAMAGING -1,55   325 probably damaging   0,988 Disease   DAMAGING -1,55   425 probably damaging   0,988 Disease   DAMAGING -1,56   176 probably pegign   0,988 Disease   DAMAGING -1,58   176 probably pegign   0,988 Disease   DAMAGING -2,28   250 possibly damaging   0,988 Disease   DAMAGING -2,28   250 possibly damaging   0,988 Disease   DAMAGING -2,28   250 possibly damaging   0,988 Disease   DAMAGING -1,58   250 possibly damaging   0,988 Di												
ĀZAV         74         3.233 possibly damaging         0.603 Nortrail         O DAMACING         -1,55         220 possibly damaging           ATAPD         74         3,948 probably damaging         0.081 bleases         8 DAMACING         -1,53         220 possibly damaging           577F         77         4.065 benign         0.081 bleases         4 DAMACING         -1,62         220 possibly damaging           9785         76         -6.23 possibly damaging         0.641 blease         4 DAMACING         -1,55         324 possibly damaging           9785         77         -6.23 possibly damaging         0.641 blease         4 DAMACING         -1,56         220 possibly damaging           ASSV         33         -2.927 possibly damaging         0.985 blease         5 DAMACING         -1,66         220 possibly damaging           ASSV         33         -2.927 possibly damaging         0.985 blease         5 DAMACING         -1,66         220 possibly damaging           CASP         84         -6.24 probably damaging         0.985 blease         5 DAMACING         -1,66         220 possibly damaging           CASP         85         None								DAMAGING	-2,31	324	possibly damaging	
Art								DAMAGING	-1.55	220	possibly damaging	
5776         77         4,006         benign         0.239         Disease         5 DAMAGING         1,6         420         possibly damaging           7788         78         -6,22         possibly damaging         0,641         Disease         4 DAMAGING         1,55         329         possibly damaging           830         83         -2,222         possibly damaging         0,985         Neutral         5 DAMAGING         1,56         220         possibly damaging           A339         83         -3,395         probably damaging         0,985         Neutral         5 DAMAGING         1,56         220         possibly damaging         9           A339         83         -2,232         possibly damaging         0,983         Disease         5 DAMAGING         1,56         176         portoably beging           A339         83         5,760         None	A74P											
P785         76         46.23 possibly damaging possibly companied to the probability of the probability damaging possibly damaging p												
Day												
ASSY   83   -2.927   possibly damaging   0.989   Disease   5 DAMAGING   -1,66   220 possibly damaging   0.989   Disease   5 DAMAGING   -1,66   176   probably beging   0.989   Disease   5 DAMAGING   -1,66   176   probably beging   0.989   Disease   0.776   Denign   0.980   Disease   0.776   Denign   0.980   Denign   0.980   Denign   0.980   Denign   0.980   Denign   0.981   Denign   0.982   Denign   0.983												
134P												
G85F         85         O.776   benign         0         None												
OSPT   85   None   No												
1.687   3.438   possibly damaging   0.911   Neutral   G DAMAGING   1.56   17.6 probably beging   1.988   bening   0.088   Neutral   5 DAMAGING   2.21   91 probably beging   1.988   possibly damaging   0.85   Neutral   9 DAMAGING   2.22   20 possibly damaging   0.85   Neutral   1.989   Possibly damaging   0.85   Neutral   1.989   Possibly damaging   0.941   Neutral   1.989   Possibly damaging   0.985   Possibly damagi								TOLERATED	-1,45	91	probably begign	
T97A   97   0,586   Denign   0   Neutral   9   DAMAGING   2,21   51   probably beging   1,225   20   Desibly damaging   0,588   Neutral   0,588   Neutral   0,588   Neutral   0,588   Neutral   0,588   Neutral   0,589   Neutral								DAMAGING	-1,54			
E98K   98   -2,512 possibly damaging   0,685   Neutral   5 DAMAGING   2,25   220 possibly damaging   0,55   Disease   1 DAMAGING   2,25   234   Probably beging   1,55   Disease   1 DAMAGING   2,25   234   Description   2,35   DAMAGING   2,36   DAMAGING   2,32   324   DAMAGING   2,36   DAMAGING   2,35   DAMAGING   2,35   DAMAGING   2,36   DAMAGING   2,37   DAMAGING   2,38   DAMAGING   1,38   DAMAGING   1					0,088							
KTODE					0 685							
RTOZK   102   1.1833 possibly damaging   0.944   Neutral   5 DAMAGING   2.22   324 possibly damaging   0.401   Neutral   3 DAMAGING   2.23   220 possibly damaging   0.401   Neutral   3 DAMAGING   2.23   176   probably begign   0.308   Neutral   5 DAMAGING   2.3   176   probably begign   0.006   Neutral   9 DAMAGING   2.3   220 possibly damaging   0.958   Disease   3 DAMAGING   2.3   220 possibly damaging   0.958   Disease   3 DAMAGING   2.2   2.20 possibly damaging   0.958   Disease   4 DAMAGING   2.27   91   probably begign   0.015   Neutral   3 DAMAGING   2.27   91   probably begign   0.016   Neutral   3 DAMAGING   2.28   0.000   Neutral   0.921   Disease   9 DAMAGING   1.93   456   probably damaging   0.958   Disease   9 DAMAGING   1.98   455   probably damaging   0.958   Disease   9 DAMAGING   1.98   455   probably damaging   0.957   Disease   9 DAMAGING   1.98   91   probably damaging   0.957   Disease   0.000   Neutral   0.			_		,							
ATOM		-	-1,893	possibly damaging					-2,32	324	possibly damaging	
M105V   105   -0.633   benign												
VIOSA   106   3.486 probably damaging   0.995 Disease   3 DAMAGING   2.3   220 possibly damaging   0.995 Disease   4 DAMAGING   2.27   91 probably beging   0.915 Disease   4 DAMAGING   2.27   91 probably beging   0.915 Disease   3 DAMAGING   2.27   91 probably beging   0.915 Disease   9 DAMAGING   1.93   455 probably damaging   0.915 Disease   9 DAMAGING   1.93   455 probably damaging   0.915 Disease   9 DAMAGING   1.93   455 probably damaging   0.915 Disease   9 DAMAGING   1.98   91 probably beging   0.915 Disease   9 DAMAGING   1.95   176 probably beging   0.915 Disease   1.95 DAMAGING   1.95   176 probably beging   0.915 Disease   1.95 DAMAGING   1.95   176 probably beging   0.915 Disease   0.915 Disease   1.95 DAMAGING   1.95   176 probably beging   0.915 Disease   0.915												
Commonstrates    Comm												
Colling	G107R	107	-4,75	probably damaging	0,969	Disease	4	DAMAGING	-2,27	91	probably begign	
R116C   116   -8.801   probably damaging   1   Disease   9   DAMAGING   -1.98   91   probably damaging   1.177   1.72   2.834   probably damaging   0.997   Disease   6   DAMAGING   -1.79   1.76   probably begign   1.79   1.76   probably begign   1.79   1.78   Denign   0.003   Disease   5   DAMAGING   -1.79   1.76   probably begign   1.77   1.76   probably begign   1.77   1.77   Denign   0.16   Neutral   5   DAMAGING   -2.29   1.76   probably begign   1.77   1.78   Denign   0.17   DAMAGING   -2.29   1.76   probably begign   1.77   1.78   Denign   0.17   DAMAGING   -2.29   1.76   probably begign   1.77   1.78   Denign   0.17   DAMAGING   -2.29   1.76   probably begign   1.77   DAMAGING   -2.22   DENIGN												
M120L   120   -0,667   benign   0,002   Neutral   1 DAMAGING   -1,75   176   probably begign   N122N   122   -1,23   benign   0,03   Disease   5 DAMAGING   -1,95   176   probably begign   N127N   127   -0,791   benign   0,116   Neutral   5 DAMAGING   -2,29   176   probably begign   N122N   128   -0,606   benign   0,031   Neutral   5 DAMAGING   -2,29   176   probably begign   N122N   N1												
E123K   123	M120L	120	-0,667	benign	0,002	Neutral	1	DAMAGING	-1,79	176	probably begign	
V127M   127   -0,791   benign   0,116   Neutral   5   DAMAGING   -2,29   176   probably begign   N128   128   -0,606   benign   0,003   Neutral   5   DAMAGING   -1,82   91   probably begign   N129   0,244   benign   0,002   Neutral   5   DAMAGING   -1,73   176   probably begign   N131T   131   -1,793   benign   0,359   Neutral   3   DAMAGING   -1,73   176   probably begign   N1331   133   -0,995   benign   0,002   Neutral   7   DAMAGING   -1,84   30   probably begign   N1374   137   -2,458   benign   0,009   Neutral   9   DAMAGING   -1,75   176   probably begign   N137M   137   -2,996   possibly damaging   0,62   Neutral   0   DAMAGING   -1,75   176   probably begign   N137M   137   -2,996   possibly damaging   0,62   Neutral   0   DAMAGING   -1,75   176   probably begign   N1388   138   -1,246   benign   0,009   Neutral   0   DAMAGING   -1,64   91   probably begign   N139L   139   1,661   benign   0,001   Disease   DAMAGING   -1,64   91   probably begign   N142A   142   -2,382   benign   0,848   Neutral   9   TOLERATED   -1,37   176   probably begign   N142S   142   -2,382   benign   0,403   Disease   DAMAGING   -1,79   176   probably begign   N144T   144   -1,372   benign   0,403   Disease   DAMAGING   -2,29   6   probably damaging   N145   Disease   DAMAGING   -2,43   455   probably damaging   N145   Disease   DAMAGING   -2,43   455   probably damaging   N145   Disease   DAMAGING   -2,43   455   probably damaging   N1564   -5,764   probably damaging   Disease   DAMAGING   -2,43   455   probably damaging   Disease   DAMAGING   -2,43   455   probably damaging   N1564   -5,764   probably damaging   Disease   DAMAGING   -2,43   455   probably damaging   Disease   DAMAGING   -3,03   456   probably damaging   N1564   -5,764   probably damaging   Disease   DAMAGING   -1,54   DAMAGING   -1,54   DAMAGING   -1,54   DAMAGING   -1,55   DAMAGING   -1,55   DAMAGING   -1,56   DAMAGING   -1,57   DAMAGING   -1,57   DAMAGING   -1,57   DAMAGING   -1,57   DAMAGING   -1,58   DAMAGING   -1,58   DAMAGING   -1,58   DAMAGING   -1,												
V128    128   -0,606   benign   0,03   Neutral   7   DAMAGING   -1,82   91   probably begign   Neutral   5   DAMAGING   -2,22   91   probably begign   Neutral   131   -1,733   benign   0,058   Neutral   3   DAMAGING   -1,73   176   probably begign   Neutral   7   DAMAGING   -1,84   30   probably begign   Neutral   7   DAMAGING   -1,84   30   probably begign   Neutral   7   DAMAGING   -1,84   30   probably begign   Neutral   134   -2,607   possibly damaging   0,828   Neutral   9   DAMAGING   -1,58   324   possibly damaging   Neutral   9   DAMAGING   -1,58   324   possibly damaging   Neutral   9   DAMAGING   -1,75   176   probably begign   Neutral   0   DAMAGING   -1,75   176   probably begign   Neutral   0   DAMAGING   -1,79   176   probably begign   Neutral   9   DAMAGING   -1,64   91   probably begign   Neutral   9   DAMAGING   -1,79   176   probably damaging   Neutral   9   DAMAGING   -1,79   176   probably damaging   Neutral   NAMAGING   -1,79   NAMA												
H129R   129   0,244   benign   0,002   Neutral   5   DAMAGING   -2,22   91   probably begign   Neutral   131   -1,793   benign   0,359   Neutral   3   DAMAGING   -1,73   176   probably begign   Neutral   7   DAMAGING   -1,84   30   probably begign   Neutral   134   -2,607   possibly damaging   0,828   Neutral   9   DAMAGING   -1,58   324   possibly damaging   Neutral   0   DAMAGING   -1,75   176   probably begign   Neutral   0   DAMAGING   -1,75   176   probably begign   Neutral   0   DAMAGING   -1,75   176   probably begign   Neutral   0   DAMAGING   -1,79   176   probably begign   Neutral   0   DAMAGING   -1,79   176   probably begign   Neutral   0   DAMAGING   -1,79   176   probably begign   Neutral   0   DAMAGING   -1,64   91   probably begign   Neutral   0   DAMAGING   -1,64   91   probably begign   Neutral   0   DAMAGING   -2,29   6   probably begign   Neutral   0   DAMAGING   -2,29   0   Probably damaging   Neutral   0   DAMAGING   -2,20   Neutral   0   DAMAGING   -2,20   Neutral   0   DAMAGING   -2,33   0   Neutral   0   Neutral   0   Neutral   0   DAMAGING   -2,33   0   Neutral												
V133    133   -0,095   benign   0,002   Neutral   7   DAMAGING   -1,84   30   probably begign   1737A   137   -2,458   benign   0,009   Neutral   9   DAMAGING   -1,55   324   possibly damaging   17137M   137   -2,458   benign   0,009   Neutral   4   DAMAGING   -1,75   176   probably begign   17137M   137   -2,458   benign   0,009   Neutral   9   DAMAGING   -1,79   176   probably begign   17137M   137   -2,996   possibly damaging   0,62   Neutral   9   DAMAGING   -1,79   176   probably begign   17142A   142   -3,762   possibly damaging   0,848   Neutral   9   DAMAGING   -1,37   176   probably begign   17142A   142   -2,382   benign   0,307   Neutral   9   DAMAGING   -1,37   176   probably begign   17142A   144   -1,372   benign   0,403   Disease   7   DAMAGING   -1,37   176   probably begign   17147C   147   -8,465   probably damaging   1 Disease   7   DAMAGING   -2,43   455   probably damaging   1 Disease   8   DAMAGING   -2,43   455   probably damaging   1 Disease   8   DAMAGING   -2,83   456   probably damaging   1 Disease   7   DAMAGING   -2,83   456   probably damaging   1 Disease   3   DAMAGING   -1,9   91   probably begign   1 Disease   166   -0,944   DAMAGING   -1,51   91   probably begign   1 Disease   168   -6,603   possibly damaging   1 Disease   3   DAMAGING   -1,84   361   possibly damaging   1 Disease   3   DAMAGING   -1,84   361   possibly damaging   3   DAMAGING   -1,84   361   possi					0,002	Neutral						
L134F         134         -2,607         possibly damaging         0,828         Neutral         9         DAMAGING         -1,58         324         possibly damaging           T137A         137         -2,458         benign         0,009         Neutral         4         DAMAGING         -1,75         176         probably begign           T137M         137         -2,996         possibly damaging         0,62         Neutral         0         DAMAGING         -1,79         176         probably begign           A138S         138         -1,246         benign         0,0001         Disease         2         DAMAGING         -1,64         91         probably begign           V139L         139         1,661         benign         0,001         Disease         2         DAMAGING         -2,29         6         probably begign           T142A         142         -3,762         possibly damaging         0,848         Neutral         9         TOLERATED         -1,37         176         probably begign           T142S         142         -2,382         benign         0,307         Neutral         6         DAMAGING         -1,79         176         probably begign           Y147C         1												
T137A         137         -2,458         benign         0,009         Neutral         4         DAMAGING         -1,75         176         probably begign           T137M         137         -2,996         possibly damaging         0,62         Neutral         0         DAMAGING         -1,79         176         probably begign           A138S         138         -1,246         benign         0,009         Neutral         9         DAMAGING         -1,64         91         probably begign           V139L         139         1,661         benign         0,001         Disease         2         DAMAGING         -1,64         91         probably begign           V142C         142         -3,762         possibly damaging         0,307         Neutral         9         TOLERATED         -1,37         176         probably begign           T142S         142         -2,382         benign         0,307         Neutral         6         DAMAGING         -1,79         176         probably begign           T142S         142         -2,382         benign         0,403         Disease         7         DAMAGING         -2,02         324         possibly damaging           Y14TC         147			_	•								
T137M   137   -2,996   possibly damaging   0,62   Neutral   0   DAMAGING   -1,79   176   probably begign   Neutral   9   DAMAGING   -1,64   91   probably begign   Neutral   9   DAMAGING   -1,64   91   probably begign   Neutral   9   DAMAGING   -1,64   91   probably begign   Neutral   9   DAMAGING   -2,29   6   probably begign   Neutral   9   DAMAGING   -2,29   6   probably begign   Neutral   9   DAMAGING   -1,79   176   probably begign   Neutral   9   DAMAGING   -2,02   324   possibly damaging   Neutral   Neutr												
A138S         138         -1,246         benign         0,009         Neutral         9         DAMAGING DAMAGING DAMAGING Probably begign         91         probably begign           T142A         142         -3,762         possibly damaging possibly damaging         0,848         Neutral         9         TOLERATED Language         -1,37         176         probably begign           T142S         142         -2,382         benign         0,307         Neutral         6         DAMAGING Language         -1,79         176         probably begign           A144T         144         -1,372         benign         0,403         Disease         7         DAMAGING Language         -2,02         324         possibly damaging           A150T         150         -3,575         probably damaging         1         Disease         4         DAMAGING Language         -2,43         455         probably damaging           A150T         150         -3,575         probably damaging         1         Disease         8         DAMAGING Language         -2,43         455         probably damaging           A155V         155         -3,743         probably damaging         1         Disease         3         DAMAGING Language         -2,83         456												
T142A         142         -3,762         possibly damaging         0,848         Neutral         9 TOLERATED         -1,37         176         probably begign           T142S         142         -2,382         benign         0,307         Neutral         6 DAMAGING         -1,79         176         probably begign           A144T         144         -1,372         benign         0,403         Disease         7 DAMAGING         -2,02         324         possibly damaging           Y147C         147         -8,465         probably damaging         1 Disease         4 DAMAGING         -2,43         455         posably damaging           A150T         150         -3,575         probably damaging         1 Disease         8 DAMAGING         -2,83         456         probably damaging           T154I         154         -5,764         probably damaging         1 Disease         7 DAMAGING         -3,03         456         probably damaging           A155V         155         -3,743         probably damaging         1 Disease         3 DAMAGING         -2         361         possibly damaging           D156G         156         0,097         benign         0 Neutral         3 DAMAGING         -1,9         91         probably												
T142S         142         -2,382         benign         0,307         Neutral         6         DAMAGING         -1,79         176         probably begign           A144T         144         -1,372         benign         0,403         Disease         7         DAMAGING         -2,02         324         possibly damaging           Y147C         147         -8,465         probably damaging         1         Disease         4         DAMAGING         -2,43         455         probably damaging           A150T         150         -3,575         probably damaging         1         Disease         7         DAMAGING         -2,83         456         probably damaging           T154I         154         -5,764         probably damaging         1         Disease         7         DAMAGING         -3,03         456         probably damaging           A155V         155         -3,743         probably damaging         1         Disease         3         DAMAGING         -2         361         possibly damaging           D156G         156         0,997         benign         0         Neutral         3         DAMAGING         -1,9         91         probably begign           V164I         161 </td <td></td> <td></td> <td>_</td> <td>•</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			_	•								
A144T         144         -1,372         benign         0,403         Disease         7         DAMAGING         -2,02         324         possibly damaging           Y147C         147         -8,465         probably damaging         1         Disease         4         DAMAGING         -2,43         455         probably damaging           A150T         150         -3,575         probably damaging         1         Disease         8         DAMAGING         -2,83         456         probably damaging           T154I         154         -5,764         probably damaging         1         Disease         7         DAMAGING         -3,03         456         probably damaging           A155V         155         -3,743         probably damaging         1         Disease         3         DAMAGING         -2         361         possibly damaging           D156G         156         0,097         benign         0         Neutral         3         DAMAGING         -1,9         91         probably begign           V164I         161         -0,944         benign         0,021         Neutral         8         DAMAGING         -1,51         91         probably begign           V164I         164 <td></td>												
A150T       150       -3,575       probably damaging       1 Disease       8 DAMAGING       -2,83       456 probably damaging         T154I       154       -5,764 probably damaging       1 Disease       7 DAMAGING       -3,03       456 probably damaging         A155V       155       -3,743 probably damaging       1 Disease       3 DAMAGING       -2       361 possibly damaging         D156G       156       0,097       benign       0 Neutral       3 DAMAGING       -1,9       91 probably begign         I161V       161       -0,944       benign       0,021 Neutral       8 DAMAGING       -1,51       91 probably begign         V164I       164       -0,538 possibly damaging       0,349 Neutral       4 DAMAGING       -1,83       220 possibly damaging         D168Y       168       -6,603 probably damaging       1 Disease       3 DAMAGING       -1,96       361 possibly damaging         D168E       168       -2,699 benign       0,135 Neutral       4 DAMAGING       -1,84       361 possibly damaging	A144T		-1,372	benign			7	DAMAGING	-2,02			
T154I         154         -5,764 probably damaging         1 Disease         7 DAMAGING         -3,03         456 probably damaging           A155V         155         -3,743 probably damaging         1 Disease         3 DAMAGING         -2         361 possibly damaging           D156G         156         0,097 benign         0 Neutral         3 DAMAGING         -1,9         91 probably begign           I161V         161         -0,944 benign         0,021 Neutral         8 DAMAGING         -1,51         91 probably begign           V164I         164         -0,538 possibly damaging         0,949 Neutral         4 DAMAGING         -1,83         220 possibly damaging           D168Y         168         -6,603 probably damaging         1 Disease         3 DAMAGING         -1,96         361 possibly damaging           D168E         168         -2,699 benign         0,135 Neutral         4 DAMAGING         -1,84         361 possibly damaging					1							
A155V         155         -3,743 probably damaging         1 Disease         3 DAMAGING         -2         361 possibly damaging           D156G         156         0,097 benign         0 Neutral         3 DAMAGING         -1,9         91 probably begign           I161V         161         -0,944 benign         0,021 Neutral         8 DAMAGING         -1,51         91 probably begign           V164I         164         -0,538 possibly damaging         0,949 Neutral         4 DAMAGING         -1,83         220 possibly damaging           D168F         168         -6,603 probably damaging         1 Disease         3 DAMAGING         -1,96         361 possibly damaging           D168E         168         -2,699 benign         0,135 Neutral         4 DAMAGING         -1,84         361 possibly damaging					1							
D156G         156         0,097         benign         0         Neutral         3         DAMAGING benign         -1,9         91         probably begign           1161V         161         -0,944         benign         0,021         Neutral         8         DAMAGING benign         -1,51         91         probably begign           V164I         164         -0,538         possibly damaging         0,949         Neutral         4         DAMAGING benign         -1,83         220         possibly damaging           D168F         168         -6,603         probably damaging         1         Disease         3         DAMAGING benign         -1,96         361         possibly damaging           D168E         168         -2,699         benign         0,135         Neutral         4         DAMAGING benign         -1,84         361         possibly damaging					1							
V164I         164         -0,538 possibly damaging         0,949 Neutral         4 DAMAGING         -1,83         220 possibly damaging           D168Y         168         -6,603 probably damaging         1 Disease         3 DAMAGING         -1,96         361 possibly damaging           D168E         168         -2,699 benign         0,135 Neutral         4 DAMAGING         -1,84         361 possibly damaging	D156G	156	0,097	benign	0	Neutral	3	DAMAGING	-1,9			
D168Y         168         -6,603 probably damaging         1 Disease         3 DAMAGING         -1,96         361 possibly damaging           D168E         168         -2,699 benign         0,135 Neutral         4 DAMAGING         -1,84         361 possibly damaging												
D168E 168 -2,699 benign 0,135 Neutral 4 DAMAGING -1,84 361 possibly damaging					0,949							
					0.135							
S173Y 173 -5,294 probably damaging 1 Disease 2 DAMAGING -2,47 455 probably damaging												

SND	Details	Provean	PolyPhen-	2	В	hD-SNP	FATHM	м	DANTH	ER-PSEP	HUMA
SNP			Prediction			Reliability Index			Preservation Time		Associated Disease
R174W	174	-6,314	probably damaging	1	Disease	3	DAMAGING	-1,89		possibly damaging	
H178Y	178		probably damaging	0,998	Disease		DAMAGING	-2,53	456	probably damaging	
K179R	179		probably damaging	1	Neutral		DAMAGING	-1,89	455	probably damaging	
Q185* A186V	185 186		None probably damaging	None <b>0,975</b>	None Neutral	None	DAMAGING	-2,37	01	probably begign	
Q188L	188		probably damaging	0,973	Neutral	1	DAMAGING	-1,84		probably begign	
Q200*	200	None	None	None	None	None		-,		p	
A201T	201	-1,136	benign	0	Neutral	3	DAMAGING	-2,25	30	probably begign	
Q202*	202	None	None	None	None	None	BAMAGING	4.07	170		RENAL TUBULAR DYSGENESIS
S206F T207M	206 207		probably damaging probably damaging	1	Disease Neutral		DAMAGING DAMAGING	-1,97 -1,82		probably begign possibly damaging	
V208A	208		probably damaging	0,965	Neutral	4		-1,41		probably begign	
V209A	209		possibly damaging		Neutral	3	DAMAGING	-1,76		possibly damaging	
V211M	211		benign	-, -	Disease		DAMAGING	-1,96		probably begign	
A214T P215L	214 215		probably damaging	0,999	Neutral		DAMAGING	-2,29		probably begign	
H218Q	215		probably damaging possibly damaging	0.526	Neutral Disease		DAMAGING DAMAGING	-2,32 -1,75		possibly damaging probably begign	
L219Q	219		probably damaging		Disease		DAMAGING	-2,16		probably damaging	
Q225P	225	-3,837	possibly damaging		Disease	3	DAMAGING	-2,33		probably begign	
A228D	228		probably damaging		Neutral		DAMAGING	-1,87		probably begign	
T231N T231A	231 231		benign benign		Neutral Neutral		DAMAGING DAMAGING	-1,84 -1,8		probably begign probably begign	
P232L	232		probably damaging		Disease		DAMAGING	-2,28		probably begign	
L235F	235		benign	/	Neutral		TOLERATED	-1,48		probably begign	
R237C	237		probably damaging		Disease		DAMAGING	-1,93	455	probably damaging	
T242I	242		possibly damaging		Disease		DAMAGING	-1,91		possibly damaging	
L244R A248V	244 248		possibly damaging probably damaging		Disease Disease		DAMAGING DAMAGING	-1,77 -1,87		probably begign possibly damaging	
R253M	253	-3,115 -3,133			Neutral		DAMAGING	-1,87		possibly damaging	
M255I	255		benign		Disease		DAMAGING	-2,04		probably begign	
Q256*	256	None	None	None	None	None					
A257V	257		probably damaging		Disease	1	DAMAGING	-1,87		possibly damaging	
V258M W261R	258 261		probably damaging probably damaging		Disease Disease		DAMAGING DAMAGING	-1,83 -2,21		possibly damaging possibly damaging	
K262R	262	-1,269			Disease		DAMAGING	-2,21		possibly damaging	
T263I	263	-0,028	benign		Neutral		TOLERATED	-0,63		probably begign	
G264S	264		benign		Disease	1	DAMAGING	-1,8		probably begign	
C265W	265		benign		Neutral		DAMAGING	-2,25		probably begign	
S266F M268I	266 268		benign benign		Disease Neutral		DAMAGING DAMAGING	-1,77 -2,25		probably begign probably begign	
M268T	268		benign		Neutral		DAMAGING	-2,25		probably begign	
G269E	269	-2,237	benign	0,044	Disease	6	DAMAGING	-2,27	176	probably begign	
A270T	270		possibly damaging		Neutral		DAMAGING	-1,82		probably begign	
D273G	273 277		benign benign		Disease Disease		DAMAGING DAMAGING	-2,45 -1.92		possibly damaging	
A277S T280S	277	-1,004 -2,214	benign benign		Disease Neutral		DAMAGING	-1,92 -1,7		probably begign possibly damaging	
T280A	280		benign		Neutral		DAMAGING	-1,81		possibly damaging	
Y281N	281	-4,826	probably damaging	1	Disease		DAMAGING	-1,86	455	probably damaging	
Y281C	281		probably damaging		Disease		DAMAGING	-1,88		probably damaging	
V282I H283L	282 283		possibly damaging probably damaging		Neutral Disease		DAMAGING DAMAGING	-1,78 -1,77		probably begign probably begign	
L293P	293		benign		Disease		DAMAGING	-1,77		probably begign	
A295S	295		benign		Disease		DAMAGING	-2,16		probably begign	
E296K	296	-2,162	probably damaging		Disease		DAMAGING	-1,77	91	probably begign	
P297L	297		benign		Disease		DAMAGING	-1,8		probably begign	
E299K W301*	299 301	<b>-2,693</b> None	benign None		Disease None	None 6	DAMAGING	-1,81	176	probably begign	
D303N	303		benign		Disease		DAMAGING	-2,27	176	probably begign	
S305N	305	-1,213	benign	0,001	Neutral	7	DAMAGING	-1,78	91	probably begign	
S307L	307		possibly damaging		Disease		DAMAGING	-1,94		probably begign	
V310L	310		probably damaging		Disease		DAMAGING	-3,1		possibly damaging	
F319L W322R	319 322		probably damaging benign		Neutral Disease		DAMAGING DAMAGING	-1,91 -2,23		possibly damaging possibly damaging	
S323N	323		benign		Neutral		DAMAGING	-1,8		probably begign	
Q326R	326	-1,385	benign	0,001	Neutral	1	DAMAGING	-2,32	176	probably begign	
D327H	327		possibly damaging		Disease		DAMAGING	-2,27		probably begign	
P335S T337I	335		probably damaging possibly damaging		Disease Neutral		DAMAGING DAMAGING	-2,42 -1.86		probably damaging	
S339N	337 339		benign		Neutral Neutral		DAMAGING	-1,86 -2,08		probably begign probably begign	
1345S	345		probably damaging		Disease		DAMAGING	-2,58		probably begign	
Q346H	346	-4,211	probably damaging	0,998	Disease	8	DAMAGING	-1,84	176	probably begign	
P347L	347		probably damaging		Disease		DAMAGING	-4,87		probably damaging	
H348Y D352N	348 352		possibly damaging benign		Disease Disease	4	DAMAGING DAMAGING	-1,82 -2,27		probably begign possibly damaging	
L353V	353		probably damaging		Disease	7	DAMAGING	-2,21		probably damaging	
K355*	355	None	None	None	None	None		, ,		,	
G358D	358	-0,816			Neutral		DAMAGING	-2,17	91	probably begign	
Q363*	363	None	None	None	None	None	ļ				
W368* M369K	368 369	None -2.91	None benign	None 0.005	None Disease	None 6	DAMAGING	-1,79	176	probably begign	
P374T	374		probably damaging		Neutral		DAMAGING	-1,79		possibly damaging	
R375Q	375		probably damaging		Disease		DAMAGING	-1,81		probably damaging	RENAL TUBULAR DYSGENESIS
R375W	375	-7,016	probably damaging		Disease		DAMAGING	-1,92		probably damaging	RENAL TUBULAR DYSGENESIS
M381R	381		probably damaging		Disease		DAMAGING	-2,37		probably begign	
M381L P382A	381 382		benign probably damaging		Neutral Disease		TOLERATED DAMAGING	-1,36 -5,12		probably begign probably damaging	
L384M	384		probably damaging		Neutral		DAMAGING	-1,88		possibly damaging	
		.,	,,,	,000		·		,00		, , , , , , , , , , , , , , , , , , , ,	

SNP	Details	Provean	PolyPhen-	-2	l P	PhD-SNP	FATHM	IM	PANTH	ER-PSEP	I HUMA
		Score			Prediction	Reliability Index			Preservation Time	Prediction	Associated Disease
V385L	385	-0,524	benign	0	Neutral	1	DAMAGING	-1,81	91	probably begign	
V385A	385	-0,241	benign	0,001	Neutral	7	DAMAGING	-1,76		probably begign	
L392M	392	-1,59	probably damaging	1	Disease	1	DAMAGING	-2,5	176	probably begign	
D394E	394	-1,292	benign	0,013	Neutral	8	DAMAGING	-2,23	176	probably begign	
L395V	395	-2,566	probably damaging	0,985	Neutral	1	DAMAGING	-1,67	324	possibly damaging	
Q398*	398	None	None	None	None	None					
A403T	403	1,626	benign	0,001	Neutral	3	DAMAGING	-2,24	91	probably begign	
H406Y	406		possibly damaging	0,631	Neutral	2	DAMAGING	-2,27	30	probably begign	
L409P	409	-0,418	possibly damaging	0,648	Disease	9	DAMAGING	-2,27	91	probably begign	
Q412K	412		benign		Disease		DAMAGING	-2,2		probably begign	
L414V	414		benign	-,	Disease		DAMAGING	-1,94		probably begign	
S415T	415		probably damaging		Neutral		DAMAGING	-1,93		probably damaging	
S415G	415		possibly damaging	0,754	Neutral	5	DAMAGING	-2,07		probably damaging	
R418C	418		benign	-, -	Disease		DAMAGING	-2,32		probably begign	
R418H	418		benign		Disease		DAMAGING	-2,3		probably begign	
V421A	421		probably damaging	0,998	Disease		DAMAGING	-2,21		possibly damaging	
V421M	421		probably damaging	1	Disease	8	DAMAGING	-2,26		possibly damaging	
E423Q	423		benign	0,017	Neutral	6	DAMAGING	-2,34	30	probably begign	
V424M	424		probably damaging		Disease		DAMAGING	-2,2		possibly damaging	
L425P	425		probably damaging		Disease	8	DAMAGING	-2,09		probably begign	
F430L	430		benign		Neutral		DAMAGING	-1,72	455	probably damaging	
E431*	-			None	None	None					
E441D	441		benign		Neutral		DAMAGING	-2,26		probably begign	
S442F	442		probably damaging		Disease		DAMAGING	-1,91		probably begign	
N447S	447		benign	-,	Neutral		DAMAGING	-1,78	91	probably begign	
N447K	447		benign		Neutral		DAMAGING	-1,74		probably begign	
E450A	450		possibly damaging		Neutral		DAMAGING	-1,87		probably begign	
R458C	458		probably damaging	2 / 2 / 2	Disease		DAMAGING	-2,73		probably begign	
R458H	458		benign	-,	Disease		DAMAGING	-2,4		probably begign	
L461V	461		probably damaging		Disease		DAMAGING	-2,11		possibly damaging	
A463V	463		possibly damaging	0,926	Neutral		DAMAGING	-1,72		probably begign	
V464M	464		probably damaging	1	Neutral	-	DAMAGING	-2,52		probably begign	
A469D	469		possibly damaging	- 7	Disease	-	DAMAGING	-1,85		probably begign	
A471V	471		probably damaging		Disease		DAMAGING	-1,83		probably begign	
H473N	473		possibly damaging	/	Disease		DAMAGING	-1,81		probably begign	
R477H	477		probably damaging		Disease		DAMAGING	-2,02		probably damaging	
T484I	484	-0,894	benign	0	Neutral	1	DAMAGING	-1,7	30	probably begign	

C23S         23         8,37 probably damaging         0,966 Disease         9 DAMAGING         -1,53         455 pr           A28P         28         -3,172 probably damaging         0,991 Disease         9 DAMAGING         -1,55         220 pr           G29D         29         -3,519 probably damaging         0,991 Disease         8 DAMAGING         -1,65         176 pr           A31G         31         -3,088 possibly damaging         0,799 Disease         3 DAMAGING         -1,65         176 pr           R35Q         35         -3,713 probably damaging         1 Disease         9 DAMAGING         -2,44         455 pr           H39R         39         -7,426 probably damaging         1 Disease         9 DAMAGING         -2,44         455 pr           H49U         40         -9,282 probably damaging         1 Disease         9 DAMAGING         -2,75         456 pr           L43F         43         -3,161 possibly damaging         0,997 Disease         6 DAMAGING         -2,41         220 pr           L43F         43         -3,161 possibly damaging         0,998 Disease         7 DAMAGING         -2,26         91 pr           S49N         49         -2,59 possibly damaging         0,508 Disease         6 DAMAGING         -2,26		
T20P   20	possibly damaging probably damaging probably begign probably begign probably begign probably damaging probably damaging probably damaging probably damaging probably damaging probably begign probably begign probably damaging probably begign probably begign probably damaging	
A25P   28	possibly damaging probably begign probably damaging probably begign probably begign probably begign probably damaging	
G29D   29   -3,519   probably damaging   0,961   Disease   8   DAMAGING   -1,51   176   probably damaging   0,799   Disease   3   DAMAGING   -1,55   176   probably damaging   1 Disease   9   DAMAGING   -2,39   455   probably damaging   1 Disease   9   DAMAGING   -2,44   455   probably damaging   1 Disease   9   DAMAGING   -2,41   456   probably damaging   1 Disease   9   DAMAGING   -2,75   456   probably damaging   1 Disease   9   DAMAGING   -2,75   456   probably damaging   0,927   Disease   6   DAMAGING   -2,75   456   probably damaging   0,938   Disease   7   DAMAGING   -2,26   91   probably damaging   0,938   Disease   6   DAMAGING   -2,26   91   probably damaging   0,938   Disease   6   DAMAGING   -2,26   91   probably damaging   0,938   Disease   6   DAMAGING   -2,32   176   probably damaging   0,938   Disease   10 DAMAGING   -2,32   176   probably damaging   0,938   Disease   3 DAMAGING   -2,31   456   probably damaging   0,938   Disease   3 DAMAGING   -2,31   456   probably damaging   0,938   Disease   3 DAMAGING   -2,31   456   probably damaging   0,938   Disease   3 DAMAGING   -2,18   361   probably damaging   0,938   Disease   3 DAMAGING   -2,18   361   probably damaging   0,938   Disease   1 DAMAGING   -2,18   361   probably damaging   0,938   Disease   1 DAMAGING   -1,55   220   probably damaging   0,938   Disease   1 DAMAGING   -1,55   220   probably damaging   0,938   Disease   0 DAMAGING   -1,53   220   probably damaging   0,938   Disease   0 DAMAGING   -1,55   220   probably damaging   0,938   Disease   0 DAMAGING   -1,56   220   probably damaging   0,938   Disease   0 DAMAGING   -2,3   220   probably damaging   0,938   D	probably begign probably begign probably damaging probably damaging probably damaging probably damaging probably damaging probably damaging probably begign probably begign probably damaging	
A31G         31         -3,088         possibly damaging         0,799         Disease         3 DAMAGING         -1,65         176         pr           R35G         35         -3,713         probably damaging         1 Disease         9 DAMAGING         -2,39         455         pr           H39R         39         -7,426         probably damaging         1 Disease         9 DAMAGING         -2,31         456         pr           P40L         40         -9,282         probably damaging         0,927         Disease         9 DAMAGING         -2,31         456         pr           N47H         47         -2,88         probably damaging         0,927         Disease         6 DAMAGING         -2,41         220         pc           S49N         49         -2,59         possibly damaging         0,508         Disease         6 DAMAGING         -2,26         91         pr           C51R         51         -11,004         probably damaging         0,982         Disease         8 DAMAGING         -2,32         176         pr           F67L         67         -4,602         benign         0,201         Disease         8 DAMAGING         -2,39         91         pr <td< td=""><td>probably damaging probably damaging</td><td></td></td<>	probably damaging	
R35Q         35         -3,713         probably damaging         1         Disease         9         DAMAGING         -2,39         455 pr           R3SW         35         -7,426         probably damaging         1         Disease         9         DAMAGING         -2,31         456 pr           H3SR         39         -7,426         probably damaging         1         Disease         9         DAMAGING         -2,75         456 pr           P40L         40         -9,282         probably damaging         1         Disease         9         DAMAGING         -2,75         456 pr           H47H         47         -2,88         probably damaging         0,998         Disease         6         DAMAGING         -2,26         991 pr           S49N         49         -2,59         possibly damaging         0,508         Disease         6         DAMAGING         -2,31         456 pr           C51R         51         -11,004         probably damaging         0,508         Disease         8         DAMAGING         -2,31         456 pr           F67L         67         -4,602         penign         0,929         Disease         8         DAMAGING         -2,31         456 pr	probably damaging probably damaging probably damaging probably damaging probably damaging probably damaging probably begign probably damaging probably begign probably begign probably damaging probably damaging probably damaging probably damaging probably begign probably damaging	
R35W   35   -7,426   probably damaging   1   Disease   9   DAMAGING   -2,44   455   probably damaging   1   Disease   9   DAMAGING   -2,75   456   probably damaging   1   Disease   9   DAMAGING   -2,75   456   probably damaging   1   Disease   9   DAMAGING   -2,75   456   probably damaging   0,927   Disease   6   DAMAGING   -2,41   220   probably damaging   0,938   Disease   7   DAMAGING   -2,41   220   probably damaging   0,938   Disease   6   DAMAGING   -2,41   220   probably damaging   0,538   Disease   6   DAMAGING   -2,26   91   probably damaging   0,538   Disease   6   DAMAGING   -2,31   456   probably damaging   0,938   Disease   6   DAMAGING   -2,31   456   probably damaging   0,938   Disease   8   DAMAGING   -2,31   456   probably damaging   0,938   Disease   8   DAMAGING   -2,31   456   probably damaging   0,603   Disease   1   DAMAGING   -2,18   361   probably damaging   0,603   Disease   1   DAMAGING   -2,19   456   probably damaging   0,603   Disease   1   DAMAGING   -1,55   220   probably damaging   0,603   Disease   2,785   Denign   0,061   Disease   3   DAMAGING   -1,55   220   probably damaging   0,938   Disease   4   DAMAGING   -1,53   324   probably damaging   0,938   Disease   4   DAMAGING   -1,53   324   probably damaging   0,938   Disease   4   DAMAGING   -1,53   324   probably damaging   0,838   Disease   5   DAMAGING   -1,53   324   probably damaging   0,838   Disease   5   DAMAGING   -1,56   220   probably damaging   0,838   Disease   5   DAMAGING   -1,56   220   probably damaging   0,939   Disease   5   DAMAGING   -1,56   2	probably damaging probably damaging probably damaging probably begign probably damaging probably begign probably damaging probably begign probably begign probably begign probably damaging probably damaging probably damaging probably begign probably damaging	
P40L         40         -9,282 probably damaging         1         Disease         9         DAMAGING         -2,75         456 pr           L43F         43         -3,161 possibly damaging         0,981 bisease         6 DAMAGING         -2,41         220 pr           S49N         49         -2,59 possibly damaging         0,508 bisease         6 DAMAGING         -2,32         176 pr           C51R         51         -11,004 probably damaging         0,508 bisease         6 DAMAGING         -2,32         176 pr           D64Y         64         -4,884 probably damaging         0,982 bisease         8 DAMAGING         -2,32         91 pr           F67L         67         -4,602 benign         0,201 bisease         8 DAMAGING         -2,39         911 pr           F69L         69         -9,292 probably damaging         0,201 bisease         1 DAMAGING         -2,18         361 pr           A74V         74         -3,948 probably damaging         0,982 bisease         8 DAMAGING         -2,18         361 pr           77F         77         -4,006 benign         0,061         bisease         8 DAMAGING         -1,53         324 pr           877F         77         -4,006 benign         0,239 bisease         5 DAMAGING	probably damaging probably begign probably damaging probably begign probably damaging	
L43F         43         -3,161         possibly damaging         0,927         Disease         6         DAMAGING         -2,41         220         possibly damaging           S49N         49         -2,59         possibly damaging         0,508         Disease         6         DAMAGING         -2,26         91 pr           C51R         51         -11,004         probably damaging         1         Disease         6         DAMAGING         -2,32         176 pr           D64Y         64         -4,884         probably damaging         0,982         Disease         8         DAMAGING         -2,39         91 pr           F67L         67         -4,602         benign         0,201         Disease         3         DAMAGING         -2,39         91 pr           P69L         69         -9,222         probably damaging         0,603         Neutral         0         DAMAGING         -2,18         361 pp           A74P         74         -3,948         probably damaging         0,631         Neutral         0         DAMAGING         -1,53         324 pp           777         -4,006         benign         0,239         Disease         4         DAMAGING         -1,53         324	probably damaging probably begign probably begign probably damaging	
N47H	probably begign probably begign probably damaging probably begign probably damaging	
S49N         49         -2,59 possibly damaging         0,508 bisease         6 DAMAGING         -2,32         176 pr           C51R         51         -11,004 probably damaging         1 Disease         10 DAMAGING         -2,31         456 pr           D64Y         64         -4,884 probably damaging         0,982 Disease         8 DAMAGING         -2,39         91 pr           F67L         67         -4,602 benign         0,201 Disease         3 DAMAGING         -2,18         361 pr           P69L         69         -9,292 probably damaging         1 DAMAGING         -2,18         361 pr           A74P         74         -3,233 possibly damaging         0,603 Neutral         0 DAMAGING         -2,19         456 pr           A74P         74         -3,948 probably damaging         0,603 Disease         8 DAMAGING         -1,55         220 pc           S77F         77         -4,006 benign         0,061 Disease         4 DAMAGING         -1,53         324 pc           S77F         77         -4,006 benign         0,239 Dossibly damaging         0,641 Disease         4 DAMAGING         -1,53         324 pc           A83V         83         -2,927 possibly damaging         0,963 Disease         5 DAMAGING         -1,56         220	probably begign probably damaging probably begign probably begign probably damaging	
D64Y         64         -4,884         probably damaging         0,982         Disease         8         DAMAGING         -2,39         91 pr           F67L         67         -4,602         benign         0,201         Disease         3         DAMAGING         -2,18         361 pc           P69L         69         -9,292         probably damaging         0,603         Neutral         0         DAMAGING         -2,185         361 pc           A74P         74         -3,233 possibly damaging         0,603         Neutral         0         DAMAGING         -1,55         220 pc           A74P         74         -3,948 probably damaging         0,988 Disease         8         DAMAGING         -1,63         220 pc           F7F         77         -4,006 benign         0,061         Disease         4         DAMAGING         -1,6         220 pc           P78S         78         -6,23 possibly damaging         0,891 Disease         5         DAMAGING         -1,56         220 pc           A83V         83         -2,927 possibly damaging         0,989 Disease         5         DAMAGING         -1,56         220 pc           L84P         84         -5,234 probably damaging         0,963 Disease	orobably begign cossibly damaging cobably begign cobably damaging cocobably damaging cocobably damaging cocobably begign cocobably begign cocobably damaging	
F67L         67         -4,602 benign         0,201 bisease         3 DAMAGING         -2,18         361 pc           P69L         69         -9,292 probably damaging         1 Disease         1 DAMAGING         -2,19         456 pr           A74V         74         -3,233 possibly damaging         0,603 Neutral         0 DAMAGING         -1,55         220 pc           A74P         74         -3,948 probably damaging         0,988 Disease         8 DAMAGING         -1,63         220 pc           T76A         76         -2,785 benign         0,061 Disease         4 DAMAGING         -1,63         220 pc           S77F         77         -4,006 benign         0,239 Disease         5 DAMAGING         -1,5         220 pc           P78S         78         -6,23 possibly damaging         0,641 Disease         4 DAMAGING         -1,5         455 pr           A83V         83         -2,927 possibly damaging         0,895 Neutral         5 DAMAGING         -1,56         220 pc           A83P         83         -3,395 probably damaging         0,969 Disease         5 DAMAGING         -1,56         220 pc           E98K         98         -2,512 possibly damaging         0,965 Disease         8 DAMAGING         -2,25         220 pc	possibly damaging probably damaging possibly damaging probably damaging probably damaging probably begign possibly damaging probably damag	
P69L         69         -9,292         probably damaging         1         Disease         1         DAMAGING         -2,19         456 probably damaging           A74V         74         -3,233         possibly damaging         0,603         Neutral         0         DAMAGING         -1,55         220 pc           A74P         74         -3,948         probably damaging         0,988         Disease         8         DAMAGING         -1,63         220 pc           F76A         76         -2,785         benign         0,061         Disease         4         DAMAGING         -1,53         324           S77F         77         -4,006         benign         0,239         Disease         5         DAMAGING         -1,56         220 pc           P78S         78         -6,23         possibly damaging         0,641         Disease         4         DAMAGING         -1,56         220 pc           A83V         83         -2,927         possibly damaging         0,989         Disease         5         DAMAGING         -1,56         220 pc           L84P         84         -5,234         probably damaging         0,963         Disease         8         DAMAGING         -1,66         1	probably damaging possibly begign possibly damaging probably begign possibly damaging probably damaging possibly damaging possibly damaging possibly damaging possibly damaging probably damagin	
A74V         74         -3,233         possibly damaging         0,603         Neutral         0         DAMAGING         -1,55         220         pc           A74P         74         -3,948         probably damaging         0,988         Disease         8         DAMAGING         -1,63         220         pc           T76A         76         -2,785         benign         0,039         Disease         4         DAMAGING         -1,53         324         pc           F77         74,006         benign         0,239         Disease         5         DAMAGING         -1,6         220         pc           A83V         83         -2,927         possibly damaging         0,841         Disease         5         DAMAGING         -1,56         220         pc           A83P         83         -3,939         probably damaging         0,989         Disease         5         DAMAGING         -1,56         220         pc           L84P         84         -5,234         probably damaging         0,963         Disease         5         DAMAGING         -1,56         220         pc           V106A         106         -3,466         probably damaging         0,995         Di	possibly damaging possibly dam	
T76A         76         -2,785         benign         0,061         Disease         4         DAMAGING         -1,53         324         pc           S77F         77         -4,006         benign         0,239         Disease         5         DAMAGING         -1,6         220         pc           P78S         78         -6,23         possibly damaging         0,841         Disease         4         DAMAGING         -1,55         455         pr           A83V         83         -2,927         possibly damaging         0,985         Neutral         5         DAMAGING         -1,56         220         pc           L84P         84         -5,234         probably damaging         0,963         Disease         5         DAMAGING         -1,66         176         pr           E98K         98         -2,512         possibly damaging         0,963         Disease         8         DAMAGING         -2,25         220         pc           V106A         106         -3,466         probably damaging         0,965         Neutral         5         DAMAGING         -2,27         91         pr           G114C         114         -8,588         probably damaging         1 <td>possibly damaging possibly damaging porobably damaging possibly damaging porobably damaging porobably damaging possibly damaging possibly damaging possibly damaging possibly damaging possibly damaging possibly damaging porobably d</td> <td></td>	possibly damaging possibly damaging porobably damaging possibly damaging porobably damaging porobably damaging possibly damaging possibly damaging possibly damaging possibly damaging possibly damaging possibly damaging porobably d	
S77F         77         -4,006         benign         0,239         Disease         5 DAMAGING         -1,6         220 pc           P78S         78         -6,23         possibly damaging         0,641         Disease         4 DAMAGING         -1,55         455 pr           A83V         83         -2,927         possibly damaging         0,895         Neutral         5 DAMAGING         -1,56         220 pc           A83P         83         -3,395         probably damaging         0,989         Disease         5 DAMAGING         -1,56         220 pc           L84P         84         -5,234         probably damaging         0,985         Disease         8 DAMAGING         -1,66         176 pr           E98K         98         -2,512         possibly damaging         0,985         Neutral         5 DAMAGING         -2,25         220 pc           G107R         106         -3,466         probably damaging         0,995         Disease         4 DAMAGING         -2,27         91 pr           G114C         114         -8,588         probably damaging         1 Disease         9 DAMAGING         -1,93         456 pr           R116C         116         -6,801         probably damaging         0,997 </td <td>possibly damaging probably damaging possibly damaging probably damaging probably damaging probably damaging probably begign possibly damaging probably damag</td> <td></td>	possibly damaging probably damaging possibly damaging probably damaging probably damaging probably damaging probably begign possibly damaging probably damag	
P78S         78         -6,23         possibly damaging         0,641         Disease         4         DAMAGING         -1,55         455         pr           A83V         83         -2,927         possibly damaging         0,895         Neutral         5         DAMAGING         -1,56         220         pc           A83P         83         -3,395         probably damaging         0,989         Disease         5         DAMAGING         -1,58         220         pc           L84P         84         -5,234         probably damaging         0,963         Disease         8         DAMAGING         -1,56         220         pc           E98K         98         -2,512         possibly damaging         0,963         Disease         8         DAMAGING         -1,66         176         pc           V106A         106         -3,466         probably damaging         0,995         Disease         3         DAMAGING         -2,25         220         pc           G107R         107         -4,75         probably damaging         1         Disease         4         DAMAGING         -2,27         91         pr           G114C         114         -8,885         probably damaging </td <td>probably damaging possibly damaging possibly damaging probably begign probably damaging probably begign probably begign probably damaging probably damaging</td> <td></td>	probably damaging possibly damaging possibly damaging probably begign probably damaging probably begign probably begign probably damaging	
A83V         83         -2,927         possibly damaging         0,895         Neutral         5         DAMAGING         -1,56         220         pc           A83P         83         -3,395         probably damaging         0,989         Disease         5         DAMAGING         -1,58         220         pc           L84P         84         -5,234         probably damaging         0,963         Disease         8         DAMAGING         -1,66         176         pr           E98K         98         -2,512         possibly damaging         0,965         Neutral         5         DAMAGING         -2,25         220         pc           V106A         106         -3,466         probably damaging         0,969         Disease         3         DAMAGING         -2,25         220         pc           G107R         107         -4,75         probably damaging         0,969         Disease         4         DAMAGING         -2,27         91         pr           G114C         114         -8,588         probably damaging         1         Disease         9         DAMAGING         -1,93         455         pr           R116C         116         -6,801         probably damagin	possibly damaging possibly damaging probably begign possibly damaging possibly damaging possibly damaging probably begign probably damaging probably damaging probably begign probably begign probably begign probably damaging prob	
L84P         84         -5,234         probably damaging         0,963         Disease         8 DAMAGING         -1,66         176 pr           E98K         98         -2,512         possibly damaging         0,685         Neutral         5 DAMAGING         -2,25         220 pc           V106A         106         -3,466         probably damaging         0,995         Disease         3 DAMAGING         -2,3         220 pc           G107R         107         -4,75         probably damaging         0,969         Disease         4 DAMAGING         -2,27         91 pr           R116C         114         -8,588         probably damaging         1 Disease         9 DAMAGING         -1,93         456 pr           R116C         116         -6,801         probably damaging         1 Disease         9 DAMAGING         -1,98         455 pr           I117R         117         -2,834         probably damaging         0,997         Disease         6 DAMAGING         -1,98         91 pr           E123K         123         -2,508         possibly damaging         0,587         Disease         7 DAMAGING         -1,77         176 pr           L134F         134         -2,607         possibly damaging         0,828	orobably begign cossibly damaging cossibly damaging crobably begign crobably damaging crobably damaging crobably begign crobably begign crobably begign crobably damaging crobably damaging crobably damaging crobably damaging crobably damaging crobably damaging	
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V106A         106         -3,466 probably damaging         0,995 Disease         3 DAMAGING         -2,3         220 pc           G107R         107         -4,75 probably damaging         0,969 Disease         4 DAMAGING         -2,27         91 pr           G114C         114         -8,588 probably damaging         1 Disease         9 DAMAGING         -1,93         455 pr           R116C         116         -6,801 probably damaging         1 Disease         9 DAMAGING         -1,98         455 pr           I117R         117         -2,834 probably damaging         0,997 Disease         6 DAMAGING         -1,98         91 pr           E123K         123         -2,508 possibly damaging         0,587 Disease         7 DAMAGING         -1,77         176 pr           L134F         134         -2,607 possibly damaging         0,828 Neutral         9 DAMAGING         -1,58         324 pc           Y147C         147         -8,465 probably damaging         1 Disease         4 DAMAGING         -2,43         455 pr           A155T         150         -3,575 probably damaging         1 Disease         7 DAMAGING         -2,83         456 pr           A155V         155         -3,743 probably damaging         1 Disease         7 DAMAGING         -3,	possibly damaging probably begign probably damaging probably damaging probably begign probably begign probably begign probably damaging pr	
G107R         107         -4,75 probably damaging         0,969 Disease         4 DAMAGING         -2,27         91 pr           G114C         114         -8,588 probably damaging         1 Disease         9 DAMAGING         -1,93         456 pr           R116C         116         -6,801 probably damaging         1 Disease         9 DAMAGING         -1,98         455 pr           I117R         117         -2,834 probably damaging         0,997 Disease         6 DAMAGING         -1,98         91 pr           E123K         123         -2,508 possibly damaging         0,587 Disease         7 DAMAGING         -1,77         176 pr           L134F         134         -2,607 possibly damaging         0,828 Neutral         9 DAMAGING         -1,58         324 pc           Y147C         147         -8,465 probably damaging         1 Disease         4 DAMAGING         -2,43         455 pr           A150T         150         -3,575 probably damaging         1 Disease         8 DAMAGING         -2,83         456 pr           T154I         154         -5,764 probably damaging         1 Disease         7 DAMAGING         -3,03         456 pr           A155V         155         -3,743 probably damaging         1 Disease         3 DAMAGING         -2 <td>orobably begign orobably damaging orobably damaging orobably begign orobably begign orosably damaging orobably damaging orobably damaging orobably damaging</td> <td></td>	orobably begign orobably damaging orobably damaging orobably begign orobably begign orosably damaging orobably damaging orobably damaging orobably damaging	
G114C         114         -8,588 probably damaging         1 Disease         9 DAMAGING         -1,93         456 probably damaging           R116C         116         -6,801 probably damaging         1 Disease         9 DAMAGING         -1,98         455 probably damaging           1117R         117         -2,834 probably damaging         0,997 Disease         6 DAMAGING         -1,98         91 probably damaging           E123K         123         -2,508 possibly damaging         0,587 Disease         7 DAMAGING         -1,77         176 probably damaging           L134F         134         -2,607 possibly damaging         0,828 Neutral         9 DAMAGING         -1,58         324 possibly damaging           Y147C         147         -8,465 probably damaging         1 Disease         4 DAMAGING         -2,43         455 probably damaging           A155T         150         -3,575 probably damaging         1 Disease         8 DAMAGING         -2,83         456 probably damaging           T154I         154         -5,764 probably damaging         1 Disease         7 DAMAGING         -3,03         456 probably damaging           A155V         155         -3,743 probably damaging         1 Disease         3 DAMAGING         -2         361 pc	orobably damaging orobably begign orobably begign orossibly damaging orobably damaging orobably damaging orobably damaging	
I117R	probably begign probably begign possibly damaging probably damaging probably damaging probably damaging	
E123K     123     -2,508 possibly damaging     0,587 Disease     7 DAMAGING     -1,77     176 pr       L134F     134     -2,607 possibly damaging     0,828 Neutral     9 DAMAGING     -1,58     324 pc       Y147C     147     -8,465 probably damaging     1 Disease     4 DAMAGING     -2,43     455 pr       A150T     150     -3,575 probably damaging     1 Disease     8 DAMAGING     -2,83     456 pr       T154l     154     -5,764 probably damaging     1 Disease     7 DAMAGING     -3,03     456 pr       A155V     155     -3,743 probably damaging     1 Disease     3 DAMAGING     -2     361 pc	probably begign possibly damaging probably damaging probably damaging probably damaging	
L134F     134     -2,607 possibly damaging     0,828     Neutral     9 DAMAGING     -1,58     324 pc       Y147C     147     -8,465 probably damaging     1 Disease     4 DAMAGING     -2,43     455 pr       A150T     150     -3,575 probably damaging     1 Disease     8 DAMAGING     -2,83     456 pr       T154I     154     -5,764 probably damaging     1 Disease     7 DAMAGING     -3,03     456 pr       A155V     155     -3,743 probably damaging     1 Disease     3 DAMAGING     -2     361 pc	possibly damaging probably damaging probably damaging	
Y147C         147         -8,465 probably damaging         1 Disease         4 DAMAGING         -2,43         455 probably damaging           A150T         150         -3,575 probably damaging         1 Disease         8 DAMAGING         -2,83         456 probably damaging           T154I         154         -5,764 probably damaging         1 Disease         7 DAMAGING         -3,03         456 probably damaging           A155V         155         -3,743 probably damaging         1 Disease         3 DAMAGING         -2         361 pc	probably damaging probably damaging	
T154I         154         -5,764 probably damaging         1 Disease         7 DAMAGING         -3,03         456 pr           A155V         155         -3,743 probably damaging         1 Disease         3 DAMAGING         -2         361 pc		
A155V 155 -3,743 probably damaging 1 Disease 3 DAMAGING -2 361 pc	robably damaging	
	possibly damaging possibly damaging	
	probably damaging	
R174W 174 -6,314 probably damaging 1 Disease 3 DAMAGING -1,89 324 pc	ossibly damaging	
	probably damaging	(0.0 EN E010
Q202*         202         None         None         None         None           S206F         206         -4,754         probably damaging         1         Disease         5         DAMAGING         -1,97         176 pr	RENAL TUBULAR DY probably begign	SGENESIS
	possibly damaging	
	ossibly damaging	
	oossibly damaging	
	probably damaging probably begign	
	probably begign	
	probably damaging	
	oossibly damaging	
	possibly damaging possibly damaging	
	possibly damaging	
W261R 261 -9,099 probably damaging 0,999 Disease 5 DAMAGING -2,21 324 pc	oossibly damaging	
	oossibly damaging	
	probably damaging probably damaging	
	probably damaging	
S307L 307 -3,772 possibly damaging 0,795 Disease 3 DAMAGING -1,94 176 pr	probably begign	
	oossibly damaging	
	possibly damaging possibly damaging	
	probably damaging	
1345S 345 -4,944 probably damaging 0,998 Disease 6 DAMAGING -2,58 176 pr	robably begign	
	probably begign	
	probably damaging	
	probably begign possibly damaging	
	probably damaging	
P374T 374 -6,317 probably damaging 0,967 Neutral 9 DAMAGING -1,79 324 pc	ossibly damaging	
	probably damaging RENAL TUBULAR DY	
	probably damaging RENAL TUBULAR DY probably begign	SGENESIS
	probably damaging	
L395V 395 -2,566 probably damaging 0,985 Neutral 1 DAMAGING -1,67 324 pc	ossibly damaging	
	probably damaging	
	probably damaging possibly damaging	
	possibly damaging	
	possibly damaging	
S442F         442         -3,718 probably damaging         0,996 Disease         Disease         4 DAMAGING         -1,91         176 probably damaging	robably begign	
	probably begign	
	possibly damaging probably begign	
	probably begign	
	probably damaging	

Γ	SNP	Details	Provean	PolyPhen-	-2	P	hD-SNP	FATHM		PANTH	ER-PSEP	HUMA
3	SNP	Seq Pos	Score	Prediction	Probability	Prediction	Reliability Index	Prediction	Score	Preservation Time	Prediction	Associated Disease

<sup>\*</sup> SNPs were predicted to be damaging if at least 4 out of the 5 tools agreed or they if they were associated with a disease in HUMA

Position	Position (PDB)	Residue
36		VAL
37		TYR
38	339	
39	340	
40	341	PRO
41	342	PHE
42	343	HIS
43	344	LEU
44	345	VAL
45	346	ILE
48	349	GLU
49	350	SER
52	353	GLU
101	402	LEU
104	405	ALA
105	406	MET
108		MET
109		LEU
112		PHE
160		ALA
161	462	
164		VAL
165		PRO
168		ASP
400	701	GLU

- \* SNPs occur at positions highlighted in yellow
- \*\* Damaging SNPs occur at positions highlighted in red
- \*\*\* The "Position (PDB)" column refers to the numbering in the PDB file