

	A	C	D	E	F	G	H	I	K	L	M	N	P	Q	R	S	T	V	W	Y	*
A	23,742																				
C		3,836																			
D	1,268		11,243																		
E	1,571		7,756	7,545																	
F		368			6,237																
G	2,582	785	4,096	3,064		16,190															
H			1,159				4,875														
I					1,220			10,550													
K				7,285				560	5,900												
L					5,936		1,150	3,853		32,052											
M								4,400	1,195	2,441											
N			7,094				1,523	945	5,130			8,817									
P	1,694						906			4,734			17,944								
Q				3,033			3,153		2,084	1,515			974	5,882							
R		3,747				3,966	5,744	574	5,027	1,131	627		932	6,037	11,859						
S	4,423	2,400			2,483	5,026		1,190		4,811		6,316	5,135		2,790	27,118					
T	10,143							6,014	1,542		3,026	1,857	1,692		991	5,863	18,627				
V	10,574		1,182	1,775	1,461	2,005		12,365		5,405	3,377							16,664			
W		419				227				321					1,951	232					
Y		2,243	1,351		2,355		3,061					1,215				1,337					6,101
*		85		317	507	90			159	131				902	610	195			505	203	310

**Additional file 12: Pairwise amino acid changes inferred from SNPs inside coding sequence of gene models.**

Amino acids are given by IUPAC single letter codes (with \* for STOPS).