

Table S1: The results of second refinement step for identification of the most significant substitutions (for all 40 variants)

	Aa change	CADD	Mutation Taster	I-mutant -3	RI	MUpuro	Delta G	SNP effect				Conservancy	
								FoldX Protein stability	LIMBO Chaperone binding tendency (dLIMBO score)	WALTZ Amyloid propensity (dWALTZ score)	TANGO Aggregation tendency (dTANGO score)	Phylop	PhastCons
1	E44K	23	Benign	Decrease	7	Decrease	-0.8585552	No structural information	not affected (0.00)	not affected (-0.87)	not affected (0.28)	2.916	1
2	R158P	28	Benign	Decrease	4	DECREASE	-0.88315353	No structural information	not affected (0.00)	Not affected (0.14)	(Not affected) -0.28	2.222	1
3	S510P	26.6	Benign	Increase	3	DECREASE	-0.98778734	No structural information	not affected (0.00)	not affected (0.00)	Not affected (0.01)	3.607	1
4	R617G	22.9	Benign	Decrease	7	DECREASE	-2.2641057	No structural information	not affected (0.00)	Not affected (0.14)	Not affected (-4.91)	0.225	1
5	L112S	26.1	Benign	Decrease	9	DECREASE	-1.5841774	No structural information	not affected (0.00)	Not affected (0.11)	not affected (0.00)	3.41	1
6	S563P	25.1	Deleterious	Increase	5	DECREASE	-1.2882062	No structural information	not affected (0.00)	Not affected (-0.01)	Not affected (1.21)	1.421	1
7	E339K	28.7	Benign	Decrease	7	DECREASE	-1.0780254	No structural information	not affected (0.00)	Not affected (-0.12)	Not affected (4.09)	3.621	1
8	D111Y	28.6	Benign	Increase	2	DECREASE	-0.098220634	No structural information	not affected (0.00)	Increase (429.25)	Increase (203.50)	4.11	1
9	L524P	23.3	Deleterious	Decrease	5	DECREASE	-1.9531981	No structural information	not affected (0.00)	not affected (0.00)	not affected (0.00)	3.607	1

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10	R331 W	26.4	Benign	Decrease	5	DECREASE	-1.2872594	No structural information	not affected (0.00)	Not affected (0.39)	Not affected (-0.25)	0.047	0.669
11	E104 A	26.3	Benign	Decrease	8	DECREASE	-1.4371507	No structural information	not affected (0.00)	Not affected (0.03)	not affected (0.00)	3.487	1
12	D106 V	26.8	Benign	Decrease	2	DECREASE	-0.50727363	No structural information	not affected (0.00)	Not affected (-7.51)	Increase (182.93)	3.487	1
13	D106 G	29.6	Benign	Decrease	3	DECREASE	-1.6391565	No structural information	not affected (0.00)	Not affected (-18.91)	Not affected (2.17)	3.487	1
14	V459 G	23.7	Benign	Decrease	9	DECREASE	-1.9494483	No structural information	not affected (0.00)	not affected (0.00)	not affected (0.00)	2.991	1
15	E491 K	31	Benign	Decrease	8	DECREASE	-0.62995498	No structural information	not affected (0.00)	Not affected (-0.14)	Not affected (0.28)	4.348	1
16	E118 G	27.2	Benign	Decrease	6	DECREASE	-1.3814404	No structural information	not affected (0.00)	not affected (0.00)	not affected (0.00)	3.41	1
17	D62Y	24.7	Benign	Decrease	4	DECREASE	-1.4666265	No structural information	not affected (0.00)	Decreased (-76.79)	Not affected (32.39)	1.918	1
18	D278 G	31	Benign	Decrease	1	DECREASE	-1.9486713	No structural information	not affected (0.00)	Not affected (-0.01)	not affected (0.00)	2.53	1
19	D612 Y	29.9	Benign	Decrease	2	DECREASE	-0.90913561	No structural information	not affected (0.00)	Not affected (1.18)	Not affected (0.74)	4.102	1
20	E578 K	29.9	Deleterious	Decrease	8	DECREASE	-1.4887437	No structural information	not affected (0.00)	Not affected (-0.14)	Not affected (0.23)	4.494	1

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21	R45L	25.5	Benign	Decrease	8	DECREASE	-0.62002714	No structural information	not affected (0.00)	Not affected (0.28)	Not affected (-0.28)	2.815	1
22	K270N	24.9	Benign	Increase	1	DECREASE	-0.30434246	No structural information	not affected (0.00)	Not affected (0.13)	Not affected (-0.27)	2.815	1
23	R330C	32	Benign	Decrease	4	DECREASE	-0.97591216	No structural information	not affected (0.00)	Not affected (0.41)	Not affected (-0.25)	1.674	1
24	R638L	29.2	Deleterious	Decrease	5	INCREASE	0.20503571	No structural information	not affected (0.00)	Not affected (2.88)	Not affected (-0.28)	4.102	1
25	R638H	29.2	Benign	Decrease	8	DECREASE	-0.82572375	No structural information	not affected (0.00)	Not affected (0.18)	Not affected (-0.24)	4.102	1
26	R650P	28.9	Benign	Decrease	3	DECREASE	-1.4174138	No structural information	not affected (0.00)	Not affected (0.04)	Not affected (-0.28)	2.782	1
27	R650H	24.7	Benign	Decrease	8	DECREASE	-1.3029415	No structural information	not affected (0.00)	Not affected (2.54)	Not affected (-0.24)	2.782	1
28	L648R	27.2	Deleterious	Decrease	8	DECREASE	-1.6859857	No structural information	not affected (0.00)	Not affected (-0.14)	Not affected (0.28)	3.559	1
29	K55Q	25.2	Benign	Decrease	5	DECREASE	-0.34683895	No structural information	not affected (0.00)	Not affected (0.18)	Not affected (-0.27)	3.618	1
30	R649C	32	Deleterious	Decrease	2	DECREASE	-0.71202154	No structural information	not affected (0.00)	Not affected (0.01)	Not affected (-0.28)	4.292	1
31	R638C	31	Deleterious	Decrease	2	DECREASE	-0.35557169	No structural information	not affected (0.00)	Not affected (0.14)	Not affected (-0.28)	2.442	1

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32	R638 G	28.7	Deleterious	Decrease	6	DECREASE	-1.0760406	No structural information	not affected (0.00)	Not affected (0.14)	Not affected (-0.28)	2.442	1
33	R638 S	27.2	Deleterious	Decrease	8	DECREASE	-0.65006129	No structural information	not affected (0.00)	Not affected (0.15)	Not affected (-0.28)	2.442	1
34	Q580 P	26.3	Deleterious	Decrease	7	DECREASE	-0.81626228	No structural information	not affected (0.00)	Not affected (-1.24)	Not affected (-0.40)	3.731	1
35	R100P	26.6	Benign	Decrease	4	DECREASE	-1.2420111	No structural information	not affected (0.00)	Not affected (0.14)	Not affected (-0.28)	2.608	1
36	N566 K	24.5	Benign	Decrease	5	DECREASE	-1.2100999	No structural information	not affected (0.00)	Not affected (-0.20)	Not affected (2.15)	0.831	1
37	Q479 H	25.3	Benign	Decrease	5	DECREASE	-0.89777933	No structural information	not affected (0.00)	Not affected (-0.00)	Not affected (0.03)	2.834	1
38	R649 H	26.7	Deleterious	Decrease	8	DECREASE	-1.1257388	No structural information	not affected (0.00)	Not affected (2.06)	Not affected (-0.24)	2.782	1
39	R105 G	25.9	Benign	Decrease	8	DECREASE	-1.9637632	No structural information	not affected (0.00)	Increased (260.57)	Not affected (-0.28)	1.592	1
40	R330 L	26.6	Benign	Decrease	8	INCREASE	0.022820759	No structural information	not affected (0.00)	Not affected (0.18)	Not affected (-0.28)	3.621	0.996

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