Table S1. Gene List.

Number	Gene
1	ATM
2	BRIP1
3	MLH1
4	NBN
5	RAD50
6	TP53
7	BARD1
8	CDH1
9	MRE11A
10	PALB2
11	RAD51C
12	XRCC2
13	BRCA1
14	CHEK2
15	MSH2
16	PMS2
17	RAD51D
18	BRCA2
19	EPCAM
20	MSH6
21	PTEN
22	RINT1

Table S2. Distribution of P/LP-Vs in multiple P/LP-Vs carriers.

Carriers ID	Genes	HGVSg	Carriers ID	Genes	HGVSg
brca14_rscm_17	ATM	11:g.108282707delinsCATACAACACTAAAAAATG	**brca79_rscm_17**	BRCA1	17:g.43091349delinsTTTAAAGTGCAGCTTTTC
	BRCA2	13:g.32333103delinsTA		PMS2	7:g.5987583_5987584delinsC
	MSH6	2:g.47806453delinsCTTAGAT		STK11	19:g.1219400_1219456delinsT
brca25_rscm_17	BRCA2	13:g.32379885delinsCA	**brca80_rscm_17**	ATM	11:g.108345760delinsTCAGTAGCTCAAGGG
	STK11	19:g.1219400_1219456delinsT		BRCA2	13:g.32316515_32316516delinsT
brca28_rscm_17	BRCA2	13:g.32379885delinsCA		STK11	19:g.1219400_1219456delinsT
	PMS2	7:g.5987525_5987526delinsC	brca82_rscm_17	BRCA2	13:g.32379885delinsCA
brca37_rscm_17	BRCA2	13:g.32332277delinsGCATACAT		PMS2	7:g.5987525_5987526delinsC
	CDKN2	9:g.21974732_21974737delinsC	**brca85_rscm_17**	BRCA2	13:g.32379885delinsCA
	RAD50	5:g.132595759_132595760delinsT		PMS2	7:g.5987525_5987526delinsC
	TP53	17:g.7674917delinsTC		STK11	19:g.1219400_1219456delinsT
brca48_rscm_17	PMS2	7:g.5987525_5987526delinsC	brca86_rscm_17	ATM	11:g.108326058delinsCCTTCTTCCAACAGAAACGATTGT
	PTEN	10:g.87965294delinsTCTTATCA		BRCA2	13:g.32379885delinsCA
brca58_rscm_17	PALB2	16:g.23635659_23635660delinsA	**brca89_rscm_17**	BRCA2	13:g.32379885delinsCA
	PMS2	7:g.5987525delinsCT		PMS2	7:g.5987525delinsCT
brca59_rscm_17	BRCA1	17:g.43093581_43093582delinsT		STK11	19:g.1219400_1219456delinsT
	MSH6	2:g.47803500delinsAC	brca90_rscm_17	BRCA2	13:g.32379885delinsCA
	RAD50	5:g.132595759_132595760delinsT		PMS2	7:g.5987525_5987526delinsC
	RAD51	17:g.58734130delinsAATCCAGGAAATGCAGAAGAG	brca91_rscm_17	PALB2	16:g.23635659_23635660delinsA
brca67_rscm_17	MSH6	2:g.47803500delinsAC		STK11	19:g.1219400_1219456delinsT
	PALB2	16:g.23635659_23635660delinsA	brca93_rscm_17	PMS2	7:g.5987525delinsCT
	RAD50	5:g.132595759_132595760delinsT		STK11	19:g.1219400_1219456delinsT
brca72_rscm_17	BRCA1	17:g.43093821_43093822delinsT	**brca98_rscm_17**	BRCA2	13:g.32379885delinsCA
	STK11	19:g.1219400_1219456delinsT		BRIP1	17:g.61683605_61683606delinsA
brca73_rscm_17	ATM	11:g.108245025_108245026delinsA		MSH6	2:g.47803657_47803658delinsT
	BRIP1	17:g.61683605_61683606delinsA		RAD50	5:g.132595759_132595760delinsT
	STK11	19:g.1219400_1219456delinsT	brca100_rscm_17	BRCA2	13:g.32379885delinsCA
brca74_rscm_17	BRCA2	13:g.32338277delinsGACTTTGACAGAAA		PMS2	7:g.5987525_5987526delinsC
	PALB2	16:g.23635659_23635660delinsA		RAD50	5:g.132595759_132595760delinsT
	TP53	17:g.7674917delinsTC			

Carriers ID with bold text have familial history (mother/aunt/grandmother) in breast cancer

Table S3. Potentially pathogenic VUS detected in breast cancer susceptibility genes.

Gene	HGVSg	Type of variant	dbSNP / ClinVar ID	Number of carriers
BRCA1	17:g.43093594delinsCAAAA	Frameshift	-	1
BRCA2	13:g.32354874C>T	Missense	rs41293505	1
STK11	19:g.1221967C>T	Missense	-	1
	19:g.1226589G>A	Missense	rs775978755	1
	19:g.1222992C>T	Missense	rs750366043	1
	19:g.1219346G>A	Missense	rs567769257	1
ATM	11:g.108247122C>T	Missense	950587	1
	11:g.108271274G>A	Missense	rs749471737	1
	11:g.108335101C>T	Missense	rs1591192429	1
PALB2	16:g.23624080C>G	Missense	rs372931676	1
BRIP1	17:g.61808594C>T	Missense	rs758360637	1
	17:g.61799232C>T	Missense	rs786202780	1
	17:g.61799193C>T	Missense	rs772570870	1
	17:g.61780973T>C	Missense	rs1567813893	1
CHEK2	22:g.28725253C>T	Missense	rs587781667	1
BARD1	2:g.214781051A>T	Missense	rs776157713	1
	2:g.214730494G>T	Missense	rs1553612535	1
	2:g.214728819G>A	Missense	rs76744638	3
MLH1	3:g.36993576G>T	Missense	rs777971423	1
	3:g.37028831C>T	Missense	rs532873141	1
MSH2	2:g.47414338C>G	Missense	953109	3
	2:g.47414418G>T	Missense	rs587779197	2
MSH6	2:g.47798716A>T	Missense	rs762168786	1
	2:g.47799065G>A	Missense	rs63750440	1
	2:g.47799639T>A	Missense	rs745937181	2
	2:g.47800636A>G	Missense	rs587782593	1
	2:g.47806650C>T	Missense	rs773763465	3
PMS2	7:g.5999217C>T	Missense	rs876658387	1
RAD51C	17:g.58703259G>A	Missense	rs200857129	2
RAD51	17:g.58703259G>A	Missense	rs200857129	1
MUTYH	1:g.45333414C>T	Missense	rs587782683	1
	1:g.45331466C>T	Missense	rs748700385	1