

Supplementary Table 1. The detected total variants list

Gene	Variant	Variant Type	Class.	Variant Freq. (%)	n
BRCA1	c.1444_1447delATTA p.I482*	Frameshift	P	3.46	15
BRCA1	c.2800C>T p.Q934*	Nonsense	P	3.00	13
BRCA1	c.4327C>T p.R1443*	Nonsense	P	3.00	13
BRCA1	c.5266dupC p.Q1756Pfs*74	Frameshift	P	3.00	13
BRCA1	c.181T>G p.C61G	Missense	P	1.15	5
BRCA1	c.5123C>A p.A1708E	Missense	P	1.15	5
BRCA1	c.135-2A>T	Intronic	LP	0.69	3
BRCA1	c.1881_1884del p.S628Efs*3	Frameshift	P	0.69	3
BRCA1	c.3211G>T p.E1071*	Nonsense	LP	0.69	3
BRCA1	c.3333del p.E1112Nfs*5	Frameshift	P	0.69	3
BRCA1	c.3607C>T p.R1203*	Nonsense	P	0.69	3
BRCA1	c.4391_4393delinsTT p.P1464Lfs*2	Frameshift	P	0.69	3
BRCA1	c.4956G>A p.M1652I	Missense	P	0.69	3
BRCA1	c.1895G>A p.S632N	Missense	LP	0.46	2
BRCA1	c.2019delA p.E673Dfs*28	Frameshift	P	0.46	2
BRCA1	c.2077G>A p.D693N	Missense	VUS	0.46	2
BRCA1	c.2599C>G p.Q867E	Missense	LP	0.46	2
BRCA1	c.3328_3330delAAG p.K1110del	Inframe del	VUS	0.46	2
BRCA1	c.4070_4071delAA p.E1357Gfs*10	Frameshift	LP	0.46	2
BRCA1	c.4936del p.V1646Sfs*12	Frameshift	P	0.46	2
BRCA1	c.5057dupA p.H1686Qfs*9	Frameshift	LP	0.46	2
BRCA1	c.509G>A p.R170Q	Missense	LP	0.46	2
BRCA1	c.5152+23C>T	Intronic	VUS	0.46	2
BRCA1	c.535T>C p.Y179H	Missense	VUS	0.46	2
BRCA1	c.53T>A p.M18K	Missense	VUS	0.46	2
BRCA1	c.788dupG p.S264*	Nonsense	P	0.46	2
BRCA1	c.979A>G p.T327A	Missense	VUS	0.46	2
BRCA1	c.1166_1169dup p.D390Efs*2	Frameshift	LP	0.23	1
BRCA1	c.134A>C p.K45T	Missense	VUS	0.23	1
BRCA1	c.1621C>T p.Q541*	Nonsense	P	0.23	1
BRCA1	c.1637_1685delinsGAAAG p.M546Ifs*5	Frameshift	LP	0.23	1
BRCA1	c.1644T>C p.I548I	Synonymous	VUS	0.23	1
BRCA1	c.1714G>T p.E572*	Nonsense	P	0.23	1
BRCA1	c.1772T>C p.I591T	Missense	VUS	0.23	1
BRCA1	c.1888G>T p.R629I	Missense	VUS	0.23	1
BRCA1	c.1938_1947delCAGTGAAGAG p.S646fs*2	Frameshift	P	0.23	1
BRCA1	c.2611_2612delCC p.P871Vfs*31	Frameshift	P	0.23	1
BRCA1	c.2666C>T p.S889F	Missense	VUS	0.23	1
BRCA1	c.2952del p.I986Sfs*14	Frameshift	P	0.23	1
BRCA1	c.3247A>G p.M1083V	Missense	LP	0.23	1
BRCA1	c.3700_3704del p.N1234Qfs*8	Frameshift	P	0.23	1
BRCA1	c.3756_3759delGTCT p.S1253fs*10	Frameshift	P	0.23	1
BRCA1	c.3770_3771delAG p.E1257Gfs*9	Frameshift	P	0.23	1
BRCA1	c.4033C>T p.L1335L	Nonsense	VUS	0.23	1

<i>BRCA1</i>	c.4035delA p.E1346fs*20	Frameshift	P	0.23	1
<i>BRCA1</i>	c.4063_4065delAAT p.N1355del	Inframe del	LP	0.23	1
<i>BRCA1</i>	c.4065_4068delTCAA p.N1355Kfs*10	Frameshift	P	0.23	1
<i>BRCA1</i>	c.4185+21_4185+22dupTG	Inframe dup	LP	0.23	1
<i>BRCA1</i>	c.4366A>G p.T1456A	Missense	VUS	0.23	1
<i>BRCA1</i>	c.4391_4393delCTAinsTT p.P1464Lfs*2	Frameshift	P	0.23	1
<i>BRCA1</i>	c.4443G>T p.E1478D	Missense	VUS	0.23	1
<i>BRCA1</i>	c.4487C>A p.S1496*	Nonsense	P	0.23	1
<i>BRCA1</i>	c.493_494delCT p.L165fs*16	Frameshift	P	0.23	1
<i>BRCA1</i>	c.4986+6 T>C	Intronic	LP	0.23	1
<i>BRCA1</i>	c.4986+6T>G	Intronic	VUS	0.23	1
<i>BRCA1</i>	c.4987A>T p.M1663L	Missense	LP	0.23	1
<i>BRCA1</i>	c.5102_5103delTG p.L1722Qfs*14	Frameshift	P	0.23	1
<i>BRCA1</i>	c.5194-2A>G	Intronic	P	0.23	1
<i>BRCA1</i>	c.692C>G p.T231R	Missense	VUS	0.23	1
<i>BRCA1</i>	c.734A>T p.D245V	Missense	VUS	0.23	1
<i>BRCA1</i>	c.81-4C>T	Intronic	VUS	0.23	1
<i>BRCA2</i>	c.7689delC p.H2563Qfs*85	Frameshift	P	3.92	17
<i>BRCA2</i>	c.1909+22delT	Inframe del	VUS	2.07	9
<i>BRCA2</i>	c.3836A>G p.N1279S	Missense	LP	2.07	9
<i>BRCA2</i>	c.9097dupA p.T3033fs*11	Frameshift	P	2.07	9
<i>BRCA2</i>	c.3318C>G p.S1106R	Missense	LP	1.61	7
<i>BRCA2</i>	c.3751dupA p.T1251fs*14	Frameshift	P	1.38	6
<i>BRCA2</i>	c.4169delT p.L1390fs*20	Frameshift	P	1.38	6
<i>BRCA2</i>	c.67+1G>A	Intronic	P	1.38	6
<i>BRCA2</i>	c.8881G>A p.G2961S	Missense	VUS	1.38	6
<i>BRCA2</i>	c.1519delA p.R507fs*2	Frameshift	LP	1.15	5
<i>BRCA2</i>	c.7472A>T p.Q2491L	Missense	VUS	1.15	5
<i>BRCA2</i>	c.9317G>A p.W3106*	Nonsense	P	1.15	5
<i>BRCA2</i>	c.1411G>A p.E471K	Missense	VUS	0.92	4
<i>BRCA2</i>	c.4471_4474del p.L1491Kfs*12	Frameshift	P	0.92	4
<i>BRCA2</i>	c.5969delA p.D1990Vfs*14	Frameshift	P	0.92	4
<i>BRCA2</i>	c.8478C>A p.Y2826*	Nonsense	P	0.92	4
<i>BRCA2</i>	c.10095delCinsGAATTATATCT p.S3366Nfs*4	Frameshift	LP	0.69	3
<i>BRCA2</i>	c.1343G>A p.R448H	Missense	VUS	0.69	3
<i>BRCA2</i>	c.1414C>T p.Q472*	Nonsense	P	0.69	3
<i>BRCA2</i>	c.2808_2811delACAA p.A938fs*21	Frameshift	P	0.69	3
<i>BRCA2</i>	c.4081C>G p.Q1361E	Missense	VUS	0.69	3
<i>BRCA2</i>	c.4258G>T p.D1420Y	Missense	VUS	0.69	3
<i>BRCA2</i>	c.4751del p.E1584Gfs*33	Frameshift	LP	0.69	3
<i>BRCA2</i>	c.6550C>G p.Q2184E	Missense	VUS	0.69	3
<i>BRCA2</i>	c.6814delA p.R2272Efs*8	Frameshift	P	0.69	3
<i>BRCA2</i>	c.7007G>A p.R2336H	Missense	P	0.69	3
<i>BRCA2</i>	c.9052_9057delAGTAAA p.K3019_3020del	Inframe del	LP	0.69	3
<i>BRCA2</i>	c.9934A>G p.I3312V	Missense	VUS	0.69	3
<i>BRCA2</i>	c.1773_1776delTTAT p.I591Mfs*22	Frameshift	P	0.46	2
<i>BRCA2</i>	c.122C>T p.P41L	Missense	VUS	0.46	2

BRCA2	c.1310_1313delAAGA p.K437Ifs*22	Frameshift	P	0.46	2
BRCA2	c.1951G>T p.D651Y	Missense	VUS	0.46	2
BRCA2	c.2765dupT p.K923Qfs*13	Frameshift	P	0.46	2
BRCA2	c.3503T>C p.M1168T	Missense	P	0.46	2
BRCA2	c.4146_4148delAGA p.E1382del	Inframe del	LP	0.46	2
BRCA2	c.4243G>C p.E1415Q	Missense	VUS	0.46	2
BRCA2	c.4446_4451dupAACAGA p.E1482_T1483dup	Inframe dup	VUS	0.46	2
BRCA2	c.5312G>A p.G1771D	Missense	VUS	0.46	2
BRCA2	c.5351dupA p.N1784Tfs*3	Frameshift	P	0.46	2
BRCA2	c.5590G>A p.D1864N	Missense	VUS	0.46	2
BRCA2	c.5647A>T p.K1883*	Nonsense	LP	0.46	2
BRCA2	c.6008T>C p.I2003T	Missense	VUS	0.46	2
BRCA2	c.6080G>A p.R2027K	Missense	VUS	0.46	2
BRCA2	c.6935A>T p.D2312V	Missense	VUS	0.46	2
BRCA2	c.7544C>T p.T2515I	Missense	VUS	0.46	2
BRCA2	c.7976G>A p.R2659K	Missense	P	0.46	2
BRCA2	c.8092G>A p.A2698T	Missense	VUS	0.46	2
BRCA2	c.8452G>A p.V2818I	Missense	VUS	0.46	2
BRCA2	c.8649A>G p.P2883P	Synonymous	VUS	0.46	2
BRCA2	c.9501+4A>G	Intronic	VUS	0.46	2
BRCA2	c.9839C>A p.P3280H	Missense	P	0.46	2
BRCA2	c.9976A>T p.K3326*	Nonsense	LP	0.46	2
BRCA2	c.10037_10046delTGATAAATACinsATT p.L3346fs*35	Frameshift	LP	0.23	1
BRCA2	c.10078A>G p.K3360E	Missense	VUS	0.23	1
BRCA2	c.10089A>G p.I3363M	Missense	VUS	0.23	1
BRCA2	c.1055dupA p.Y352*	Nonsense	P	0.23	1
BRCA2	c.1114A>C p.N372H	Missense	P	0.23	1
BRCA2	c.1181A>C p.E394A	Missense	LP	0.23	1
BRCA2	c.1235C>G p.P412R	Missense	VUS	0.23	1
BRCA2	c.1570A>G p.M524V	Missense	VUS	0.23	1
BRCA2	c.1587_1590delTAAA p.F529fs*28	Frameshift	P	0.23	1
BRCA2	c.1605C>T p.A535A	Synonymous	P	0.23	1
BRCA2	c.1627C>A p.H543N	Missense	LP	0.23	1
BRCA2	c.1648G>A p.E550K	Missense	VUS	0.23	1
BRCA2	c.1773_1776delTTAT p.I591fs*22	Frameshift	P	0.23	1
BRCA2	c.1854C>A p.A618A	Synonymous	VUS	0.23	1
BRCA2	c.2264C>G p.S755C	Missense	VUS	0.23	1
BRCA2	c.2372C>A p.S791*	Nonsense	P	0.23	1
BRCA2	c.2706T>C p.A902A	Synonymous	VUS	0.23	1
BRCA2	c.2779A>G p.M927V	Missense	VUS	0.23	1
BRCA2	c.280C>T p.P94S	Missense	VUS	0.23	1
BRCA2	c.2892A>T p.K964N	Missense	LP	0.23	1
BRCA2	c.3073A>G p.K1025E	Missense	LP	0.23	1
BRCA2	c.3171_3172del p.K1058Tfs*8	Frameshift	P	0.23	1
BRCA2	c.3263dupC p.Q1089Sfs*10	Frameshift	P	0.23	1
BRCA2	c.6290C>T p.T2097M	Missense	LP	0.23	1
BRCA2	c.3302A>G p.H1101R	Missense	VUS	0.23	1

BRCA2	c.3465_3466delTT p.S1156*	Nonsense	VUS	0.23	1
BRCA2	c.349_350delCT p.L117fs*6	Frameshift	P	0.23	1
BRCA2	c.3545_3546delTT p.F1182*	Nonsense	P	0.23	1
BRCA2	c.375T>A p.D125E	Missense	VUS	0.23	1
BRCA2	c.4237A>G p.K1413E	Missense	VUS	0.23	1
BRCA2	c.426-1G>C	Intronic	P	0.23	1
BRCA2	c.4519delC p.Q1507Rfs*36	Frameshift	P	0.23	1
BRCA2	c.4531G>A p.E1511K	Missense	VUS	0.23	1
BRCA2	c.4631dupA p.N1544Kfs*4	Frameshift	P	0.23	1
BRCA2	c.4901T>C p.F1634S	Missense	VUS	0.23	1
BRCA2	c.5020delA p.S1674Vfs*8	Frameshift	P	0.23	1
BRCA2	c.5130_5133TGTA p.Y1710*	Nonsense	P	0.23	1
BRCA2	c.5153-26A>G	Intronic	VUS	0.23	1
BRCA2	c.518delG p.G173fs*12	Frameshift	P	0.23	1
BRCA2	c.5483A>G p.K1828R	Missense	VUS	0.23	1
BRCA2	c.5697T>A p.D1899E	Missense	VUS	0.23	1
BRCA2	c.5722_5723delCT p.L1908Rfs*2	Frameshift	P	0.23	1
BRCA2	c.575T>C p.M192T	Missense	VUS	0.23	1
BRCA2	c.5870T>C p.I1957T	Missense	VUS	0.23	1
BRCA2	c.5975C>T p.S1992L	Missense	VUS	0.23	1
BRCA2	c.6085_6089delGAAAA p.E2029Yfs*18	Frameshift	P	0.23	1
BRCA2	c.6231G>C p.K2077N	Missense	LP	0.23	1
BRCA2	c.6320delC p.P2107Lfs*12	Frameshift	P	0.23	1
BRCA2	c.6365T>C p.M2122T	Missense	VUS	0.23	1
BRCA2	c.6405_6409delCTTAA p.N2135fs*3	Frameshift	P	0.23	1
BRCA2	c.6468_6469delTC p.Q2157Ifs*18	Frameshift	P	0.23	1
BRCA2	c.6469C>T p.Q2157*	Nonsense	P	0.23	1
BRCA2	c.6609T>A p.V2203V	Synonymous	VUS	0.23	1
BRCA2	c.6613G>A p.V2205M	Missense	VUS	0.23	1
BRCA2	c.6614T>G p.V2205G	Missense	LP	0.23	1
BRCA2	c.6742C>A p.H2248N	Missense	VUS	0.23	1
BRCA2	c.6842G>A p.G2281E	Missense	LP	0.23	1
BRCA2	c.6934G>C p.D2312H	Missense	LP	0.23	1
BRCA2	c.7072T>C p.S2358P	Missense	VUS	0.23	1
BRCA2	c.7227T>C p.P2409P	Synonymous	VUS	0.23	1
BRCA2	c.7435+10G>A	Intronic	VUS	0.23	1
BRCA2	c.7436-1G>C	Intronic	P	0.23	1
BRCA2	c.7522G>A p.G2508S	Missense	VUS	0.23	1
BRCA2	c.7633G>A p.V2545I	Missense	P	0.23	1
BRCA2	c.7645T>G p.C2549G	Missense	LP	0.23	1
BRCA2	c.7700A>G p.Y2567C	Missense	VUS	0.23	1
BRCA2	c.771_775del p.N257Kfs*17	Frameshift	P	0.23	1
BRCA2	c.7766C>T p.P2589L	Missense	LP	0.23	1
BRCA2	c.7783G>T p.A2595S	Missense	VUS	0.23	1
BRCA2	c.7855T>C p.W2619R	Missense	VUS	0.23	1
BRCA2	c.8020_8021dupAA p.I2675fs*2	Frameshift	LP	0.23	1
BRCA2	c.8021A>G p.K2674R	Missense	LP	0.23	1

<i>BRCA2</i>	c.8117A>G p.N2706S	Missense	VUS	0.23	1
<i>BRCA2</i>	c.8155A>G p.I2719V	Missense	VUS	0.23	1
<i>BRCA2</i>	c.8322-47G>T	Intronic	VUS	0.23	1
<i>BRCA2</i>	c.8324T>G p.M2775R	Missense	VUS	0.23	1
<i>BRCA2</i>	c.8359C>T p.R2787C	Missense	VUS	0.23	1
<i>BRCA2</i>	c.8395delA p.R2799Dfs*22	Frameshift	P	0.23	1
<i>BRCA2</i>	c.8487+39T>C	Intronic	VUS	0.23	1
<i>BRCA2</i>	c.8878C>T p.Q2960*	Nonsense	P	0.23	1
<i>BRCA2</i>	c.8930delA p.Y2977Ffs*11	Frameshift	VUS	0.23	1
<i>BRCA2</i>	c.8940delA p.E2981Kfs*7	Frameshift	P	0.23	1
<i>BRCA2</i>	c.8953+80G>A	Intronic	VUS	0.23	1
<i>BRCA2</i>	c.9038C>T p.T3013I	Missense	VUS	0.23	1
<i>BRCA2</i>	c.9253del p.T3085Qfs*19	Frameshift	P	0.23	1
<i>BRCA2</i>	c.9370_9381delAACCTCCAGTGG p.N3124_W3127del	Inframe del	LP	0.23	1
<i>BRCA2</i>	c.9370_9383delAACCTCCAGTGCGinsCT p.R3128delinsL	Missense	LP	0.23	1
<i>BRCA2</i>	c.9382C>T p.R3128*	Nonsense	P	0.23	1
<i>BRCA2</i>	c.9397_9398delTC p.S3133fs*16	Frameshift	LP	0.23	1
<i>BRCA2</i>	c.9502-12T>G	Intronic	VUS	0.23	1
<i>BRCA2</i>	c.9556G>C p.A3186P	Missense	VUS	0.23	1
<i>BRCA2</i>	c.9586A>G p.K3196E	Missense	P	0.23	1
<i>BRCA2</i>	c.9613_9614delGCinsCT p.A3205L	Missense	LP	0.23	1
<i>BRCA2</i>	c.9682delA p.S3228Vfs*21	Frameshift	P	0.23	1
<i>BRCA2</i>	c.9717G>A p.W3106*	Nonsense	P	0.23	1
<i>BRCA2</i>	c.9730G>T p.V3244F	Missense	VUS	0.23	1
<i>BRCA2</i>	c.9772G>A p.E3258K	Missense	VUS	0.23	1