**Additional file 3: Table S3.** List of all Pathogenic and Likely Pathogenic Variants.

|  |  |  |
| --- | --- | --- |
| ***Gene*** | ***cDNA*** | ***Protein*** |
| *ATM* | c.2T>C | p.Met1? |
| *ATM* | c.331+5G>A |  |
| *ATM* | c.378delT | p.Asp126Glufs\*3 |
| *ATM* | c.622A>T | p.Lys208Ter |
| *ATM* | c.875C>T | p.Pro292Leu |
| *ATM* | c.1024\_1027delAAAG | p.Glu343Ilefs\*2 |
| *ATM* | c.1139\_1142dupACAG | p.Ser381Argfs\*27 |
| *ATM* | c.1339C>T | p.Arg447Ter |
| *ATM* | c.1402\_1403delAA | p.Lys468Glufs\*18 |
| *ATM* | c.1523delT | p.Gly509Glufs\*3 |
| *ATM* | c.1561\_1562delAG | p.Glu522Ilefs\*43 |
| *ATM* | c.1898+1G>T |  |
| *ATM* | c.2921+1G>C |  |
| *ATM* | c.3130\_3131insG | p.Asn1044Argfs\*4 |
| *ATM* | c.3754\_3756delTATinsCA | p.Tyr1252Glnfs\*4 |
| *ATM* | c.3802delG | p.Val1268Ter |
| *ATM* | c.3848T>C | p.Leu1283Pro |
| *ATM* | c.4236+1G>T |  |
| *ATM* | c.5290delC | p.Leu1764Tyrfs\*12 |
| *ATM* | c.5496+1G>T |  |
| *ATM* | c.5549delT | p.Leu1850Tyrfs\*67 |
| *ATM* | c.5623C>T | p.Arg1875Ter |
| *ATM* | c.5712dupA | p.Ser1905Ilefs\*25 |
| *ATM* | c.5932G>T | p.Glu1978Ter |
| *ATM* | c.6095G>A | p.Arg2032Lys |
| *ATM* | c.6100C>T | p.Arg2034Ter |
| *ATM* | c.6403\_6404insTT | p.Arg2136Ter |
| *ATM* | c.6514delA | p.Thr2172Hisfs\*63 |
| *ATM* | c.6679C>T | p.Arg2227Cys |
| *ATM* | c.6866\_6867delCT | p.Ser2289Ter |
| *ATM* | c.6914\_6915delAG | p.Leu2307Cysfs\*65 |
| *ATM* | c.6997dupA | p.Thr2333Asnfs\*40 |
| *ATM* | c.7271T>G | p.Val2424Gly |
| *ATM* | c.7327C>T | p.Arg2443Ter |
| *ATM* | c.7638\_7646delTAGAATTTC | p.Arg2547\_Ser2549del |
| *ATM* | c.7788G>A | p.Glu2596= |
| *ATM* | c.8147T>C | p.Val2716Ala |
| *ATM* | c.8266A>T | p.Lys2756Ter |
| *ATM* | c.8305delT | p.Trp2769Glyfs\*37 |
| *ATM* | c.8395\_8404del10 | p.Phe2799Lysfs\*4 |
| *ATM* | c.8418+1\_8418+4delGTGA |  |
| *ATM* | c.8833\_8834delCT | p.Leu2945Valfs\*10 |
| *ATM* | c.8977C>T | p.Arg2993Ter |
| *BARD1* | c.159-1G>T |  |
| *BARD1* | c.625\_626insG | p.Lys209Argfs\*5 |
| *BARD1* | c.1212C>G | p.Tyr404Ter |
| *BARD1* | c.1935\_1954dup20 | p.Glu652Valfs\*69 |
| *BRCA1* | c.68\_69delAG | p.Glu23Valfs\*17 |
| *BRCA1* | c.135-1G>A |  |
| *BRCA1* | c.143delT | p.Met48Serfs\*2 |
| *BRCA1* | c.181T>G | p.Cys61Gly |
| *BRCA1* | c.212+1G>T |  |
| *BRCA1* | c.213-11T>G |  |
| *BRCA1* | c.310dupA | p.Ser104Lysfs\*3 |
| *BRCA1* | c.329dupA | p.Glu111Glyfs\*3 |
| *BRCA1* | c.427G>T | p.Glu143Ter |
| *BRCA1* | c.514delC | p.Gln172Asnfs\*62 |
| *BRCA1* | c.547+1G>T |  |
| *BRCA1* | c.676delT | p.Cys226Valfs\*8 |
| *BRCA1* | c.843\_846delCTCA | p.Ser282Tyrfs\*15 |
| *BRCA1* | c.850C>T | p.Gln284Ter |
| *BRCA1* | c.923delG | p.Ser308Thrfs\*6 |
| *BRCA1* | c.930delG | p.Gln310Hisfs\*4 |
| *BRCA1* | c.962G>A | p.Trp321Ter |
| *BRCA1* | c.1016dupA | p.Val340Glyfs\*6 |
| *BRCA1* | c.1016delA | p.Lys339Argfs\*2 |
| *BRCA1* | c.1059G>A | p.Trp353Ter |
| *BRCA1* | c.1175\_1214del40 | p.Leu392Glnfs\*5 |
| *BRCA1* | c.1277delC | p.Ser426Ter |
| *BRCA1* | c.1323\_1324delAT | p.Ile441Metfs\*2 |
| *BRCA1* | c.1329\_1330delAA | p.Ser444Ter |
| *BRCA1* | c.1335\_1336delAA | p.Arg446Serfs\*9 |
| *BRCA1* | c.1360\_1361delAG | p.Ser454Ter |
| *BRCA1* | c.1504\_1508delTTAAA | p.Leu502Alafs\*2 |
| *BRCA1* | c.1556delA | p.Lys519Argfs\*13 |
| *BRCA1* | c.1600C>T | p.Gln534Ter |
| *BRCA1* | c.1601\_1602delAG | p.Gln534Argfs\*3 |
| *BRCA1* | c.1687C>T | p.Gln563Ter |
| *BRCA1* | c.1695dupG | p.Lys566Glufs\*4 |
| *BRCA1* | c.1760dupT | p.Ser588Lysfs\*20 |
| *BRCA1* | c.1881\_1884delCAGT | p.Ser628Glufs\*3 |
| *BRCA1* | c.1916T>A | p.Leu639Ter |
| *BRCA1* | c.1923dupT | p.Asp642Ter |
| *BRCA1* | c.1953\_1956delGAAA | p.Lys653Serfs\*47 |
| *BRCA1* | c.1961delA | p.Lys654Serfs\*47 |
| *BRCA1* | c.2019delA | p.Glu673Aspfs\*28 |
| *BRCA1* | c.2035A>T | p.Lys679Ter |
| *BRCA1* | c.2125\_2126insA | p.Phe709Tyrfs\*3 |
| *BRCA1* | c.2309C>A | p.Ser770Ter |
| *BRCA1* | c.2338C>T | p.Gln780Ter |
| *BRCA1* | c.2411\_2412delAG | p.Gln804Leufs\*5 |
| *BRCA1* | c.2457delC | p.Asp821Ilefs\*25 |
| *BRCA1* | c.2467delA | p.Arg823Glufs\*23 |
| *BRCA1* | c.2475delC | p.Asp825Glufs\*21 |
| *BRCA1* | c.2679\_2682delGAAA | p.Lys893Asnfs\*106 |
| *BRCA1* | c.2681\_2682delAA | p.Lys894Thrfs\*8 |
| *BRCA1* | c.2694dupA | p.Val899Serfs\*4 |
| *BRCA1* | c.2722G>T | p.Glu908Ter |
| *BRCA1* | c.2783delG | p.Gly928Alafs\*72 |
| *BRCA1* | c.2834\_2836delGTAinsC | p.Ser945Thrfs\*6 |
| *BRCA1* | c.2934T>G | p.Tyr978Ter |
| *BRCA1* | c.2959A>T | p.Lys987Ter |
| *BRCA1* | c.2983A>T | p.Lys995Ter |
| *BRCA1* | c.3048\_3052dupTGAGA | p.Asn1018Metfs\*8 |
| *BRCA1* | c.3084\_3094del11 | p.Asn1029Argfs\*5 |
| *BRCA1* | c.3178G>T | p.Glu1060Ter |
| *BRCA1* | c.3228\_3229delAG | p.Gly1077Alafs\*8 |
| *BRCA1* | c.3285delA | p.Lys1095Asnfs\*14 |
| *BRCA1* | c.3307\_3308insC | p.Cys1103Serfs\*2 |
| *BRCA1* | c.3331\_3334delCAAG | p.Gln1111Asnfs\*5 |
| *BRCA1* | c.3403C>T | p.Gln1135Ter |
| *BRCA1* | c.3481\_3491del11 | p.Glu1161Phefs\*3 |
| *BRCA1* | c.3485delA | p.Asp1162Valfs\*48 |
| *BRCA1* | c.3514G>T | p.Glu1172Ter |
| *BRCA1* | c.3526delG | p.Val1176Phefs\*34 |
| *BRCA1* | c.3607C>T | p.Arg1203Ter |
| *BRCA1* | c.3627dupA | p.Glu1210Argfs\*9 |
| *BRCA1* | c.3642\_3643delGA | p.Asn1215Leufs\*3 |
| *BRCA1* | c.3668\_3671dupTTCC | p.Cys1225Serfs\*10 |
| *BRCA1* | c.3672delC | p.Cys1225Alafs\*10 |
| *BRCA1* | c.3700\_3704delGTAAA | p.Val1234Glnfs\*8 |
| *BRCA1* | c.3748G>T | p.Glu1250Ter |
| *BRCA1* | c.3756\_3759delGTCT | p.Ser1253Argfs\*10 |
| *BRCA1* | c.3770\_3771delAG | p.Glu1257Glyfs\*9 |
| *BRCA1* | c.3869\_3870delAA | p.Lys1290Metfs\*4 |
| *BRCA1* | c.3937C>T | p.Gln1313Ter |
| *BRCA1* | c.3967delC | p.Gln1323Lysfs\*2 |
| *BRCA1* | c.4035delA | p.Glu1346Lysfs\*20 |
| *BRCA1* | c.4065\_4068delTCAA | p.Asn1355Lysfs\*10 |
| *BRCA1* | c.4096+1G>A |  |
| *BRCA1* | c.4137delT | p.Glu1380Lysfs\*13 |
| *BRCA1* | c.4182\_4183dupTC | p.Gln1395Leufs\*11 |
| *BRCA1* | c.4183C>T | p.Gln1395Ter |
| *BRCA1* | c.4327C>T | p.Arg1443Ter |
| *BRCA1* | c.4391\_4393delCTAinsTT | p.Pro1464Leufs\*2 |
| *BRCA1* | c.4484G>C | p.Arg1495Thr |
| *BRCA1* | c.4484G>T | p.Arg1495Met |
| *BRCA1* | c.4485-1G>A |  |
| *BRCA1* | c.4675+1G>A |  |
| *BRCA1* | c.4689C>G | p.Tyr1563Ter |
| *BRCA1* | c.4868C>G | p.Ala1623Gly |
| *BRCA1* | c.4986+3G>C |  |
| *BRCA1* | c.5074G>C | p.Asp1692His |
| *BRCA1* | c.5095C>T | p.Arg1699Trp |
| *BRCA1* | c.5096G>A | p.Arg1699Gln |
| *BRCA1* | c.5109T>G | p.Tyr1703Ter |
| *BRCA1* | c.5123C>A | p.Ala1708Glu |
| *BRCA1* | c.5136G>A | p.Trp1712Ter |
| *BRCA1* | c.5193+1G>T |  |
| *BRCA1* | c.5207T>C | p.Val1736Ala |
| *BRCA1* | c.5215\_5216delGA | p.Asp1739Cysfs\*90 |
| *BRCA1* | c.5266dupC | p.Gln1756Profs\*74 |
| *BRCA1* | c.5277+1G>A |  |
| *BRCA1* | c.5363G>T | p.Gly1788Val |
| *BRCA1* | c.5406+4A>G |  |
| *BRCA1* | c.5503C>T | p.Arg1835Ter |
| *BRCA2* | c.170dupA | p.Tyr57Ter |
| *BRCA2* | c.349\_350delCT | p.Leu117Serfs\*6 |
| *BRCA2* | c.444T>A | p.Cys148Ter |
| *BRCA2* | c.475G>A | p.Val159Met |
| *BRCA2* | c.631+2T>G |  |
| *BRCA2* | c.658\_659delGT | p.Val220Ilefs\*4 |
| *BRCA2* | c.891\_899delAACAGTTGTins10 | p.Thr298Ilefs\*7 |
| *BRCA2* | c.1029delA | p.Lys343Asnfs\*6 |
| *BRCA2* | c.1114\_1115delAAinsC | p.Asn372Leufs\*27 |
| *BRCA2* | c.1189\_1190insTTAG | p.Gln397Leufs\*25 |
| *BRCA2* | c.1265delA | p.Asn422Ilefs\*8 |
| *BRCA2* | c.1296\_1297delGA | p.Asn433Glnfs\*18 |
| *BRCA2* | c.1310\_1313delAAGA | p.Lys437Ilefs\*22 |
| *BRCA2* | c.1389\_1390delAG | p.Val464Glyfs\*3 |
| *BRCA2* | c.1411G>T | p.Glu471Ter |
| *BRCA2* | c.1440C>A | p.Cys480Ter |
| *BRCA2* | c.1670T>G | p.Leu557Ter |
| *BRCA2* | c.1754delA | p.Lys585Argfs\*29 |
| *BRCA2* | c.1813dupA | p.Ile605Asnfs\*11 |
| *BRCA2* | c.1929delG | p.Arg645Glufs\*15 |
| *BRCA2* | c.2330dupA | p.Asp777Glufs\*11 |
| *BRCA2* | c.2339C>G | p.Ser780Ter |
| *BRCA2* | c.2653\_2656delGACA | p.Asp885Metfs\*9 |
| *BRCA2* | c.2808\_2811delACAA | p.Ala938Profs\*21 |
| *BRCA2* | c.2830A>T | p.Lys944Ter |
| *BRCA2* | c.2855C>A | p.Ala952Glu |
| *BRCA2* | c.2957dupA | p.Asn986Lysfs\*2 |
| *BRCA2* | c.3059\_3060delCT | p.Ser1020Ter |
| *BRCA2* | c.3103G>T | p.Glu1035Ter |
| *BRCA2* | c.3158T>G | p.Leu1053Ter |
| *BRCA2* | c.3272T>A | p.Leu1091Ter |
| *BRCA2* | c.3545\_3546delTT | p.Phe1182Ter |
| *BRCA2* | c.3599\_3600delGT | p.Cys1200Ter |
| *BRCA2* | c.3641dupT | p.Phe1216Valfs\*2 |
| *BRCA2* | c.3680\_3681delTG | p.Leu1227Glnfs\*5 |
| *BRCA2* | c.3689delC | p.Ser1230Leufs\*9 |
| *BRCA2* | c.3708dupA | p.Ala1237Serfs\*6 |
| *BRCA2* | c.3744\_3747delTGAG | p.Ser1248Argfs\*10 |
| *BRCA2* | c.3847\_3848delGT | p.Val1283Lysfs\*2 |
| *BRCA2* | c.4228dupA | p.Thr1410Asnfs\*4 |
| *BRCA2* | c.4284dupT | p.Gln1429Serfs\*9 |
| *BRCA2* | c.4339delG | p.Val1447Ter |
| *BRCA2* | c.4398\_4402delACATT | p.Leu1466Phefs\*2 |
| *BRCA2* | c.4415\_4418delAGAA | p.Lys1472Thrfs\*6 |
| *BRCA2* | c.4449delA | p.Asp1484Thrfs\*2 |
| *BRCA2* | c.4478\_4481delAAAG | p.Glu1493Valfs\*10 |
| *BRCA2* | c.4638delT | p.Phe1546Leufs\*22 |
| *BRCA2* | c.4677delT | p.Phe1559Leufs\*9 |
| *BRCA2* | c.4808dupA | p.Asn1603Lysfs\*6 |
| *BRCA2* | c.4876\_4877delAA | p.Asn1626Serfs\*12 |
| *BRCA2* | c.4889C>G | p.Ser1630Ter |
| *BRCA2* | c.4936\_4939delGAAA | p.Glu1646Glnfs\*23 |
| *BRCA2* | c.4947\_4948delAA | p.Pro1651Cysfs\*14 |
| *BRCA2* | c.4965C>G | p.Tyr1655Ter |
| *BRCA2* | c.5065\_5066delGCinsAAA | p.Ala1689Lysfs\*6 |
| *BRCA2* | c.5073dupA | p.Trp1692Metfs\*3 |
| *BRCA2* | c.5106\_5109delAGAA | p.Arg1704Ter |
| *BRCA2* | c.5110A>T | p.Arg1704Ter |
| *BRCA2* | c.5217\_5220delTTTA | p.Tyr1739Ter |
| *BRCA2* | c.5350\_5351delAA | p.Asn1784Hisfs\*2 |
| *BRCA2* | c.5434G>T | p.Glu1812Ter |
| *BRCA2* | c.5471dupA | p.Asn1824Lysfs\*5 |
| *BRCA2* | c.5576\_5579delTTAA | p.Ile1859Lysfs\*3 |
| *BRCA2* | c.5609\_5610delTCinsAG | p.Phe1870Ter |
| *BRCA2* | c.5645C>A | p.Ser1882Ter |
| *BRCA2* | c.5681dupA | p.Tyr1894Ter |
| *BRCA2* | c.5722\_5723delCT | p.Leu1908Argfs\*2 |
| *BRCA2* | c.5828delC | p.Ser1943Leufs\*20 |
| *BRCA2* | c.5857G>T | p.Glu1953Ter |
| *BRCA2* | c.5864C>A | p.Ser1955Ter |
| *BRCA2* | c.5946delT | p.Ser1982Argfs\*22 |
| *BRCA2* | c.5991\_5995delACAAG | p.Arg1997Serfs\*4 |
| *BRCA2* | c.6129dupA | p.Gly2044Argfs\*5 |
| *BRCA2* | c.6267\_6269delGCAinsC | p.Glu2089Aspfs\*2 |
| *BRCA2* | c.6275\_6276delTT | p.Leu2092Profs\*7 |
| *BRCA2* | c.6373delA | p.Thr2125Profs\*12 |
| *BRCA2* | c.6444dupT | p.Ile2149Tyrfs\*2 |
| *BRCA2* | c.6468\_6469delTC | p.Gln2157Ilefs\*18 |
| *BRCA2* | c.6486\_6489delACAA | p.Lys2162Asnfs\*5 |
| *BRCA2* | c.6591\_6592delTG | p.Glu2198Asnfs\*4 |
| *BRCA2* | c.6662delA | p.Asn2221Thrfs\*8 |
| *BRCA2* | c.6833\_6837delTCTTA | p.Ile2278Serfs\*13 |
| *BRCA2* | c.6959T>A | p.Leu2320Ter |
| *BRCA2* | c.6980delT | p.Leu2327Ter |
| *BRCA2* | c.7007G>A | p.Arg2336His |
| *BRCA2* | c.7007G>C | p.Arg2336Pro |
| *BRCA2* | c.7069\_7070delCT | p.Leu2357Valfs\*2 |
| *BRCA2* | c.7147dupT | p.Tyr2383Leufs\*9 |
| *BRCA2* | c.7251\_7252delCA | p.His2417Glnfs\*3 |
| *BRCA2* | c.7388\_7389insGTTAATAT | p.Asn2463Lysfs\*9 |
| *BRCA2* | c.7558C>T | p.Arg2520Ter |
| *BRCA2* | c.7618-1G>A |  |
| *BRCA2* | c.7679\_7680delTT | p.Phe2560Serfs\*5 |
| *BRCA2* | c.7876T>C | p.Trp2626Arg |
| *BRCA2* | c.7878G>C | p.Trp2626Cys |
| *BRCA2* | c.7946delC | p.Pro2649Glnfs\*8 |
| *BRCA2* | c.7976+1G>A |  |
| *BRCA2* | c.7976G>A | p.Arg2659Lys |
| *BRCA2* | c.8167G>C | p.Asp2723His |
| *BRCA2* | c.8243G>A | p.Gly2748Asp |
| *BRCA2* | c.8247\_8248delGA | p.Lys2750Aspfs\*13 |
| *BRCA2* | c.8331+2T>C |  |
| *BRCA2* | c.8488-1G>A |  |
| *BRCA2* | c.8537\_8538delAG | p.Glu2846Glyfs\*22 |
| *BRCA2* | c.8575delC | p.Gln2859Lysfs\*4 |
| *BRCA2* | c.8754+4A>G |  |
| *BRCA2* | c.8904delC | p.Val2969Cysfs\*7 |
| *BRCA2* | c.8954-1\_8955delGTTinsAA |  |
| *BRCA2* | c.8975\_9100del126 | p.Pro2992\_Thr3033del |
| *BRCA2* | c.9004G>A | p.Glu3002Lys |
| *BRCA2* | c.9117G>A | p.Pro3039= |
| *BRCA2* | c.9118-2A>G |  |
| *BRCA2* | c.9196C>T | p.Gln3066Ter |
| *BRCA2* | c.9227G>A | p.Gly3076Glu |
| *BRCA2* | c.9253dupA | p.Thr3085Asnfs\*26 |
| *BRCA2* | c.9382C>T | p.Arg3128Ter |
| *BRCA2* | c.9403delC | p.Leu3135Phefs\*28 |
| *BRCA2* | c.9513\_9516delACTT | p.Leu3172Alafs\*44 |
| *BRCA2* | c.9580\_9581delCC | p.Pro3194Asnfs\*2 |
| *BRCA2* | c.9599C>G | p.Ser3200Ter |
| *BRCA2* | c.9883C>T | p.Gln3295Ter |
| *BRIP1* | c.1\_2delAT | p.Met1? |
| *BRIP1* | c.290\_293delACAA | p.Asn97Metfs\*3 |
| *BRIP1* | c.627+1G>A |  |
| *BRIP1* | c.1045G>C | p.Ala349Pro |
| *BRIP1* | c.1201\_1204dupTGTG | p.Ala402Valfs\*21 |
| *BRIP1* | c.1372G>T | p.Glu458Ter |
| *BRIP1* | c.1758delT | p.His587Metfs\*3 |
| *BRIP1* | c.1871C>A | p.Ser624Ter |
| *BRIP1* | c.2011\_2012insT | p.Glu671Valfs\*5 |
| *BRIP1* | c.2038\_2039dupTT | p.Leu680Phefs\*9 |
| *BRIP1* | c.2108delAinsTCC | p.Lys703Ilefs\*3 |
| *BRIP1* | c.2109\_2110insCC | p.Leu704Profs\*2 |
| *BRIP1* | c.2255\_2256delAA | p.Lys752Argfs\*12 |
| *BRIP1* | c.2258-1G>A |  |
| *BRIP1* | c.2392C>T | p.Arg798Ter |
| *BRIP1* | c.2400C>G | p.Tyr800Ter |
| *BRIP1* | c.2492+2dupT |  |
| *BRIP1* | c.2684\_2687delCCAT | p.Ser895Ter |
| *BRIP1* | c.2765T>G | p.Leu922Ter |
| *BRIP1* | c.2992\_2995delAAGA | p.Lys998Glufs\*60 |
| *BRIP1* | c.3016\_3017insT | p.Asn1006Ilefs\*10 |
| *CHEK2* | c.3G>A | p.Met1? |
| *CHEK2* | c.190G>A | p.Glu64Lys |
| *CHEK2* | c.349A>G | p.Arg117Gly |
| *CHEK2* | c.378\_379delTGinsAT | p.Asp126\_Glu127delinsGluTer |
| *CHEK2* | c.409C>T | p.Arg137Ter |
| *CHEK2* | c.433C>T | p.Arg145Trp |
| *CHEK2* | c.444+1G>A |  |
| *CHEK2* | c.483\_485delAGA | p.Glu161del |
| *CHEK2* | c.683+1G>T |  |
| *CHEK2* | c.836delA | p.Lys279Serfs\*2 |
| *CHEK2* | c.860delA | p.Lys287Argfs\*17 |
| *CHEK2* | c.917G>C | p.Gly306Ala |
| *CHEK2* | c.1100delC | p.Thr367Metfs\*15 |
| *CHEK2* | c.1263delT | p.Ser422Valfs\*15 |
| *CHEK2* | c.1368dupA | p.Glu457Argfs\*33 |
| *CHEK2* | c.1370dupA | p.Lys458Glufs\*32 |
| *CHEK2* | c.1427C>T | p.Thr476Met |
| *CHEK2* | c.1486C>T | p.Gln496Ter |
| *CHEK2* | c.1555C>T | p.Arg519Ter |
| *NBN* | c.657\_661delACAAA | p.Lys219Asnfs\*16 |
| *NBN* | c.873\_874insA | p.Ser292Ilefs\*12 |
| *NBN* | c.1142delC | p.Pro381Glnfs\*23 |
| *NBN* | c.1903A>T | p.Lys635Ter |
| *NBN* | c.2071-1G>A |  |
| *PALB2* | c.196C>T | p.Gln66Ter |
| *PALB2* | c.212-2A>G |  |
| *PALB2* | c.424A>T | p.Lys142Ter |
| *PALB2* | c.509\_510delGA | p.Arg170Ilefs\*14 |
| *PALB2* | c.658delA | p.Ser220Valfs\*3 |
| *PALB2* | c.758dupT | p.Ser254Ilefs\*3 |
| *PALB2* | c.760dupT | p.Ser254Phefs\*3 |
| *PALB2* | c.1240C>T | p.Arg414Ter |
| *PALB2* | c.1467\_1468delTC | p.Pro490Argfs\*5 |
| *PALB2* | c.1592delT | p.Leu531Cysfs\*30 |
| *PALB2* | c.2167\_2168delAT | p.Met723Valfs\*21 |
| *PALB2* | c.2267\_2283dup17 | p.His762Alafs\*8 |
| *PALB2* | c.2323C>T | p.Gln775Ter |
| *PALB2* | c.2325dupA | p.Phe776Ilefs\*26 |
| *PALB2* | c.2834+1G>A |  |
| *PALB2* | c.2976\_2977insAT | p.Thr993Ilefs\*15 |
| *PALB2* | c.3113G>A | p.Trp1038Ter |
| *PALB2* | c.3374\_3395del22 | p.Asp1125Glyfs\*31 |
| *PALB2* | c.3549C>G | p.Tyr1183Ter |
| *RAD51C* | c.93delG | p.Phe32Serfs\*8 |
| *RAD51C* | c.97C>T | p.Gln33Ter |
| *RAD51C* | c.225delT | p.Tyr75Ter |
| *RAD51C* | c.397C>T | p.Gln133Ter |
| *RAD51C* | c.404G>C | p.Cys135Ser |
| *RAD51C* | c.414G>C | p.Leu138Phe |
| *RAD51C* | c.706-2A>G |  |
| *RAD51C* | c.709C>T | p.Arg237Ter |
| *RAD51C* | c.774delT | p.Thr259Leufs\*4 |
| *RAD51C* | c.904+5G>T |  |
| *RAD51C* | c.905-2\_905-1delAG |  |
| *RAD51C* | c.905-2A>G |  |
| *RAD51C* | c.955C>T | p.Arg319Ter |
| *RAD51C* | c.1026+5\_1026+7delGTA |  |
| *RAD51D* | c.1A>G | p.Met1? |
| *RAD51D* | c.1A>T | p.Met1? |
| *RAD51D* | c.81delA | p.Val28Trpfs\*12 |
| *RAD51D* | c.478C>T | p.Gln160Ter |
| *RAD51D* | c.556C>T | p.Arg186Ter |
| *RAD51D* | c.620C>T | p.Ser207Leu |
| *RAD51D* | c.694C>T | p.Arg232Ter |
| *RAD51D* | c.748delC | p.His250Thrfs\*2 |
| *RAD51D* | c.772\_778delGGGAGGC | p.Gly258Serfs\*50 |
| *RAD51D* | c.803G>A | p.Trp268Ter |
| *RAD51D* | c.857delC | p.Ala286Aspfs\*24 |
| *RAD51D* | c.898C>T | p.Arg300Ter |

RefSeq transcripts: *ATM* (NM\_000051.3), *BARD1* (NM\_000465.2), *BRCA1* (NM\_007294.3), *BRCA2* (NM\_000059.3), *BRIP1* (NM\_032043.2), *CHEK2* (NM\_007194.3), *NBN* (NM\_002485.4), *PALB2* (NM\_024675.3), *RAD51C* (NM\_058216.1), *RAD51D* (NM\_002878.3).