NGS698PoolA_15_368301_JB_F_CP2R207Via_Pan4150 coverage report 2025-07-14 13:06

Panel genes analyzed: BRCA1, BRCA2, BRIP1, MLH1, MSH2, MSH6, PALB2, RAD51C, RAD51D

Gene Coverage Summary:

Gene Symbol	Mean Coverage	Completeness at 30X	Exon Count
BRCA1	460.8	100.0	23
BRCA2	563.3	100.0	27
BRIP1	552.0	100.0	20
MLH1	474.5	100.0	19
MSH2	574.3	100.0	16
MSH6	490.2	100.0	10
PALB2	490.5	100.0	13
RAD51C	520.8	100.0	9
RAD51D	386.3	100.0	10

Exons with < 100% coverage @ 30x:

All exons have 100% coverage at a minimum of 30x.

Complete Exon Coverage Report

Gene Symbol	Transcript	Entrez ID	Chr	Start	Stop	Mean Coverage	Completeness
MSH2	NM_000251.2	4436	2	47630196	47630551	359.3	100.0
MSH2	NM_000251.2	4436	2	47635530	47635704	624.7	100.0
MSH2	NM_000251.2	4436	2	47637223	47637521	584.9	100.0
MSH2	NM_000251.2	4436	2	47639543	47639709	550.3	100.0
MSH2	NM_000251.2	4436	2	47641398	47641567	707.1	100.0
MSH2	NM_000251.2	4436	2	47643425	47643578	571.2	100.0
MSH2	NM_000251.2	4436	2	47656871	47657090	550.1	100.0
MSH2	NM_000251.2	4436	2	47672677	47672806	641.6	100.0
MSH2	NM_000251.2	4436	2	47690160	47690303	645.5	100.0
MSH2	NM_000251.2	4436	2	47693787	47693957	606.0	100.0
MSH2	NM_000251.2	4436	2	47698094	47698211	738.4	100.0
MSH2	NM_000251.2	4436	2	47702154	47702419	648.9	100.0
MSH2	NM_000251.2	4436	2	47703496	47703720	395.6	100.0
MSH2	NM_000251.2	4436	2	47705401	47705668	478.6	100.0
MSH2	NM_000251.2	4436	2	47707825	47708020	492.5	100.0
MSH2	NM_000251.2	4436	2	47709908	47710099	594.1	100.0
MSH6	NM_000179.2	2956	2	48010211	48010642	297.7	100.0
MSH6	NM_000179.2	2956	2	48018056	48018272	525.7	100.0
MSH6	NM_000179.2	2956	2	48023023	48023212	371.5	100.0
MSH6	NM_000179.2	2956	2	48025740	48028304	423.6	100.0
MSH6	NM_000179.2	2956	2	48030549	48030834	434.6	100.0
MSH6	NM_000179.2	2956	2	48032039	48032176	539.6	100.0
MSH6	NM_000179.2	2956	2	48032747	48032856	535.7	100.0
MSH6	NM_000179.2	2956	2	48033333	48033507	547.0	100.0
MSH6	NM_000179.2	2956	2	48033581	48033800	520.5	100.0
MSH6	NM_000179.2	2956	2	48033908	48034010	705.9	100.0
MLH1	NM_000249.3	4292	3	37034831	37035164	273.7	100.0
MLH1	NM_000249.3	4292	3	37038100	37038210	456.7	100.0
MLH1	NM_000249.3	4292	3	37042436	37042554	536.5	100.0

MLH1	NM_000249.3	4292	3	37045882	37045975	511.1	100.0
MLH1	NM_000249.3	4292	3	37048472	37048564	559.4	100.0
MLH1	NM_000249.3	4292	3	37050295	37050406	678.9	100.0
MLH1	NM_000249.3	4292	3	37053301	37053363	760.0	100.0
MLH1	NM_000249.3	4292	3	37053492	37053600	466.7	100.0
MLH1	NM_000249.3	4292	3	37055913	37056045	507.5	100.0
MLH1	NM_000249.3	4292	3	37058987	37059100	416.6	100.0
MLH1	NM_000249.3	4292	3	37061791	37061964	399.5	100.0
MLH1	NM_000249.3	4292	3	37067118	37067508	319.7	100.0
MLH1	NM_000249.3	4292	3	37070265	37070433	500.1	100.0
MLH1	NM_000249.3	4292	3	37081667	37081795	373.9	100.0
MLH1	NM_000249.3	4292	3	37083749	37083832	561.2	100.0
MLH1	NM_000249.3	4292	3	37089000	37089184	406.9	100.0
MLH1	NM_000249.3	4292	3	37089998	37090110	371.6	100.0
MLH1	NM_000249.3	4292	3	37090385	37090518	434.4	100.0
MLH1	NM_000249.3	4292	3	37091967	37092155	480.9	100.0
BRCA2	NM_000059.3	675	13	32889607	32889814	350.9	100.0
BRCA2	NM_000059.3	675	13	32890549	32890674	625.4	100.0
BRCA2	NM_000059.3	675	13	32893204	32893472	572.9	100.0
BRCA2	NM_000059.3	675	13	32899203	32899331	636.4	100.0
BRCA2	NM_000059.3	675	13	32900228	32900297	664.1	100.0
BRCA2	NM_000059.3	675	13	32900369	32900429	697.0	100.0
BRCA2	NM_000059.3	675	13	32900626	32900760	503.7	100.0
BRCA2	NM_000059.3	675	13	32903570	32903639	556.2	100.0
BRCA2	NM_000059.3	675	13	32905046	32905177	617.6	100.0
BRCA2	NM_000059.3	675	13	32906399	32907534	561.5	100.0
BRCA2	NM_000059.3	675	13	32910392	32915343	576.8	100.0
BRCA2	NM_000059.3	675	13	32918685	32918800	509.2	100.0
BRCA2	NM_000059.3	675	13	32920954	32921043	568.3	100.0
BRCA2	NM_000059.3	675	13	32928988	32929435	616.1	100.0
BRCA2	NM_000059.3	675	13	32930555	32930756	452.9	100.0
BRCA2	NM_000059.3	675	13	32931869	32932076	664.0	100.0
BRCA2	NM_000059.3	675	13	32936650	32936840	437.5	100.0

BRCA2 NM_0000593 675 13 32897306 32937600 454.0 100.0 BRCA2 NM_000069.3 675 13 32844629 32944704 540.7 100.0 BRCA2 NM_000069.3 675 13 32945083 32945247 605.3 100.0 BRCA2 NM_000069.3 675 13 32950787 32950000 669.9 100.0 BRCA2 NM_000069.3 675 13 32954444 32953602 560.3 100.0 BRCA2 NM_000069.3 675 13 32954944 32954600 629.9 100.0 BRCA2 NM_00069.3 675 13 32968816 3296000 578.8 100.0 BRCA2 NM_00069.3 675 13 32971025 32971191 572.5 100.0 BRCA2 NM_0024675.3 79728 16 23614769 2361900 504.3 100.0 PALB2 NM_024675.3 79728 16 23625315 2365422				_	1			
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BRCAZ NML000059.3 675 13 32950797 32950938 564.3 100.0 BRCAZ NML000059.3 675 13 32953444 32953662 560.3 100.0 BRCAZ NML000059.3 675 13 32954800 629.9 100.0 BRCAZ NML000059.3 675 13 32954814 32954292 598.6 100.0 BRCAZ NML000059.3 675 13 32954134 32954292 598.6 100.0 BRCAZ NML000059.3 675 13 32954134 32954292 598.6 100.0 BRCAZ NML000059.3 675 13 32954134 32954292 598.6 100.0 BRCAZ NML000059.3 675 13 32971025 32971191 572.5 100.0 BRCAZ NML000059.3 675 13 32972289 32972918 494.1 100.0 PALBZ NML024675.3 79728 16 23614769 23615000 504.3 100.0 PALBZ NML024675.3 79728 16 23619175 23619343 479.2 100.0 PALBZ NML024675.3 79728 16 23625315 23625422 603.3 100.0 PALBZ NML024675.3 79728 16 23632673 23632809 385.4 100.0 PALBZ NML024675.3 79728 16 23632673 23632809 385.4 100.0 PALBZ NML024675.3 79728 16 23634280 2363461 437.4 100.0 PALBZ NML024675.3 79728 16 23634280 2363461 437.4 100.0 PALBZ NML024675.3 79728 16 23635320 23635425 569.6 100.0 PALBZ NML024675.3 79728 16 23635320 23635425 569.6 100.0 PALBZ NML024675.3 79728 16 23635320 23635425 569.6 100.0 PALBZ NML024675.3 79728 16 23640515 23640606 496.1 100.0 PALBZ NML024675.3 79728 16 23640515 23640606 513.3 100.0 PALBZ NML024675.3 79728 16 23640515 23640606 513.3 100.0 PALBZ NML024675.3 79728 16 23640515 23640606 513.3 100.0 PALBZ NML024675.3 79728 16 23640510 2364460 513.3 100.0 PALBZ NML024675.3 79728 16 23640510 2364460 513.3 100.0 PALBZ NML024675.3 79728 16 23640510 2364460 513.3 100.0 PALBZ NML024675.3 79728 16 23640510 23640606 496.1 100.0 PALBZ NML024675.3 79728 16 23640510 23640606 370.1 100.0 PALBZ NML024675.3 79728 16 23640510 23640606 370.1 100.0 PALBZ NML024675.3 5892 17 33432630 3343053 370.1 100.0 PALBZ NML024675.3 5892 17 33	BRCA2	NM_000059.3	675	13	32944529	32944704	540.7	100.0
BRCA2 NML000059.3 675 13 32953444 32953662 560.3 100.0 BRCA2 NML000059.3 675 13 32954377 32954060 629.9 100.0 BRCA2 NML000059.3 675 13 32954374 32954292 598.6 100.0 BRCA2 NML000059.3 675 13 32954314 32954292 598.6 100.0 BRCA2 NML000059.3 675 13 32954816 32969080 578.8 100.0 BRCA2 NML000059.3 675 13 32971025 32971191 572.5 100.0 BRCA2 NML000059.3 675 13 32972289 32972918 494.1 100.0 PALB2 NML024675.3 79728 16 23614769 23615000 504.3 100.0 PALB2 NML024675.3 79728 16 23619175 23619343 479.2 100.0 PALB2 NML024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NML024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NML024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NML024675.3 79728 16 23634280 2363461 437.4 100.0 PALB2 NML024675.3 79728 16 23635320 23633461 437.4 100.0 PALB2 NML024675.3 79728 16 23635202 23635425 569.6 100.0 PALB2 NML024675.3 79728 16 23635202 23635425 569.6 100.0 PALB2 NML024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NML024675.3 79728 16 23640515 23640606 513.3 100.0 PALB2 NML024675.3 79728 16 23640515 23640606 513.3 100.0 PALB2 NML024675.3 79728 16 23640516 2364060 513.3 100.0 PALB2 NML024675.3 79728 16 23640516 2364060 513.3 100.0 PALB2 NML024675.3 79728 16 23640510 2364960 513.3 100.0 PALB2 NML024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NML024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NML024675.3 79728 16 23649161 23649360 370.1 100.0 PALB2 NML024675.3 79728 17 33427861 33428065 370.1 100.0 PALB2 NML024675.3 79728 17 334327861 33428065 370.1 100.0 PALB2 NML024675.3 5892 17 334328065 370.1 100.0 PALB2 NML024675.3 5892 17 334328065 370.1 100.0 PALB2 NML024675.3 5892 17 3343395 3433510 350.2 100.0 RAD51D NML002878.3 5892 17 33434356 33433510 350.2 100.0 RAD51D NML002878.3 5892 17 33434356 33434564 383.7 100.0 RAD51D NML002878.3 5892 17 33434	BRCA2	NM_000059.3	675	13	32945083	32945247	605.3	100.0
BRCA2 NM_000059.3 675 13 32954360 629.9 100.0 BRCA2 NM_000059.3 675 13 32954134 32954292 598.6 100.0 BRCA2 NM_000059.3 675 13 32968816 32969080 578.8 100.0 BRCA2 NM_000059.3 675 13 32971025 32971191 572.5 100.0 BRCA2 NM_000059.3 675 13 32972289 32972818 494.1 100.0 BRCA2 NM_000059.3 675 13 32972289 32972918 494.1 100.0 PALB2 NM_024675.3 79728 16 23614769 23615000 504.3 100.0 PALB2 NM_024675.3 79728 16 2361975 23619343 479.2 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 2363532 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 2363532 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640606 496.7 100.0 PALB2 NM_024675.3 79728 16 2364960 513.3 100.0 PALB2 NM_024675.3 79728 17 33427961 33428066 370.1 100.0 PALB2 NM_024675.3 79728 17 33427961 33428066 370.1 100.0 RAD51D NM_002878.3 5892 17 33434063 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33434376 3343476 333.7 100.0 RAD51D NM_002878.3 5892 17 33434376 33434664 369.7 100.0 RAD51D NM_002878.3 5892 17 33434376 33434664 369.7 100.0 RAD51D NM_002878.3 5892 17 33434561 33446201 378.0 100.0	BRCA2	NM_000059.3	675	13	32950797	32950938	564.3	100.0
BRCA2 NM_000059.3 675 13 32954324 32954292 598.6 100.0 BRCA2 NM_000059.3 675 13 32968816 32969080 578.8 100.0 BRCA2 NM_000059.3 675 13 32971025 32971191 572.5 100.0 BRCA2 NM_000059.3 675 13 32972289 32972918 494.1 100.0 PALB2 NM_024675.3 79728 16 23614769 23615000 504.3 100.0 PALB2 NM_024675.3 79728 16 23619175 23619343 479.2 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 236332673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 2363461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640606 499.5 100.0 PALB2 NM_024675.3 79728 16 2364960 513.3 100.0 PALB2 NM_024675.3 79728 16 2364960 513.3 100.0 PALB2 NM_024675.3 79728 16 23649381 2364960 513.3 100.0 PALB2 NM_024675.3 79728 17 33427861 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 3342866 3343055 491.7 100.0 RAD51D NM_002878.3 5892 17 3343063 3343055 491.7 100.0 RAD51D NM_002878.3 5892 17 3343063 3343055 390.2 100.0 RAD51D NM_002878.3 5892 17 3343063 3343057 370.1 100.0 RAD51D NM_002878.3 5892 17 3343063 3343057 370.1 100.0 RAD51D NM_002878.3 5892 17 33434376 3343466 369.7 100.0 RAD51D NM_002878.3 5892 17 33434561 3344664 369.7 100.0 RAD51D NM_002878.3 5892 17 33434561 3344664 369.7 100.0 RAD51D NM_002878.3 5892 17 33434561 3344664 369.7 100.0	BRCA2	NM_000059.3	675	13	32953444	32953662	560.3	100.0
BRCA2 NM_000059.3 675 13 32968816 32969080 578.8 100.0 BRCA2 NM_000059.3 675 13 32971025 32971191 572.5 100.0 BRCA2 NM_000059.3 675 13 32972289 32972918 494.1 100.0 PALB2 NM_024675.3 79728 16 23614769 23615000 504.3 100.0 PALB2 NM_024675.3 79728 16 2362515 23619343 479.2 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23637547 23637728 491.3 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 2364960 513.3 100.0 PALB2 NM_024675.3 5892 17 33427961 33428965 370.1 100.0 RAD51D NM_002878.3 5892 17 3343063 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 3343063 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33430353 3433550 350.2 100.0 RAD51D NM_002878.3 5892 17 33433959 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33434355 33434456 383.7 100.0 RAD51D NM_002878.3 5892 17 33446510 33446610 3344601 378.0 100.0	BRCA2	NM_000059.3	675	13	32953877	32954060	629.9	100.0
BRCA2 NM_000059.3 675 13 32971025 3297191 572.5 100.0 BRCA2 NM_000059.3 675 13 32972288 32972918 494.1 100.0 PALB2 NM_024675.3 79728 16 23614769 23615000 504.3 100.0 PALB2 NM_024675.3 79728 16 2361975 23619343 479.2 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 568.6 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 568.6 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640765 499.5 100.0 PALB2 NM_024675.3 79728 16 23649161 2364980 560.3 100.0 PALB2 NM_024675.3 79728 16 23649161 23649883 580.3 100.0 PALB2 NM_024675.3 79728 16 23649161 23649883 580.3 100.0 PALB2 NM_024675.3 79728 16 2364981 2364960 513.3 100.0 PALB2 NM_024675.3 5892 17 33427961 3342896 370.1 100.0 RAD51D NM_02878.3 5892 17 3343063 3343057 370.1 100.0 RAD51D NM_02878.3 5892 17 3343063 3343057 370.1 100.0 RAD51D NM_02878.3 5892 17 3343063 3343057 370.1 100.0 RAD51D NM_02878.3 5892 17 3343395 3343351 350.2 100.0 RAD51D NM_02878.3 5892 17 3343395 33433510 350.2 100.0 RAD51D NM_02878.3 5892 17 33434551 3344456 383.7 100.0 RAD51D NM_02878.3 5892 17 33446510 3344661 369.7 100.0 RAD51D NM_02878.3 5892 17 33446510 3344661 369.7 100.0 RAD51D NM_02878.3 5892 17 33446510 3344661 369.7 100.0	BRCA2	NM_000059.3	675	13	32954134	32954292	598.6	100.0
BRCA2 NM_000059.3 675 13 32972289 32972918 494.1 100.0 PALB2 NM_024675.3 79728 16 23614769 23615000 504.3 100.0 PALB2 NM_024675.3 79728 16 23619175 23619343 479.2 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23637547 23637728 491.3 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 3343263 33432834 471.6 100.0 RAD51D NM_002878.3 5892 17 33430463 3343033 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 3343396 33434510 350.2 100.0 RAD51D NM_002878.3 5892 17 3343397 3343451 331.4 100.0 RAD51D NM_002878.3 5892 17 3343397 3343451 331.4 100.0 RAD51D NM_002878.3 5892 17 3343397 3343451 331.4 100.0 RAD51D NM_002878.3 5892 17 33434561 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33434561 33445648 369.7 100.0	BRCA2	NM_000059.3	675	13	32968816	32969080	578.8	100.0
PALB2 NM_024675.3 79728 16 23614769 23615000 504.3 100.0 PALB2 NM_024675.3 79728 16 23619175 23619343 479.2 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23637728 491.3 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 236493161 23649283	BRCA2	NM_000059.3	675	13	32971025	32971191	572.5	100.0
PALB2 NM_024675.3 79728 16 23619175 23619343 479.2 100.0 PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381	BRCA2	NM_000059.3	675	13	32972289	32972918	494.1	100.0
PALB2 NM_024675.3 79728 16 23625315 23625422 603.3 100.0 PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23637547 23637728 491.3 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23640516 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 2364961 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381	PALB2	NM_024675.3	79728	16	23614769	23615000	504.3	100.0
PALB2 NM_024675.3 79728 16 23632673 23632809 385.4 100.0 PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23637547 23637728 491.3 100.0 PALB2 NM_024675.3 79728 16 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640605 499.5 100.0 PALB2 NM_024675.3 79728 16 2364961 23647665 499.5 100.0 PALB2 NM_024675.3 79728 16 23649381 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0	PALB2	NM_024675.3	79728	16	23619175	23619343	479.2	100.0
PALB2 NM_024675.3 79728 16 23634280 23634461 437.4 100.0 PALB2 NM_024675.3 79728 16 23635320 23635425 569.6 100.0 PALB2 NM_024675.3 79728 16 23637547 23637728 491.3 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33427961	PALB2	NM_024675.3	79728	16	23625315	23625422	603.3	100.0
PALB2 NM_024675.3 79728 16 23637547 23637728 491.3 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33428210 33428394 471.6 100.0 RAD51D NM_002878.3 5892 17 33430463 33430553 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33434375 334345648 369.7 100.0 RAD51D NM_002878.3 5892 17 334345510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 334345510 33445648 369.7 100.0	PALB2	NM_024675.3	79728	16	23632673	23632809	385.4	100.0
PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23646173 23647665 499.5 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33428210 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33428210 33428394 471.6 100.0 RAD51D NM_002878.3 5892 17 33430463 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 3343395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33433997 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 3343510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 3344648 369.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33446201 378.0 100.0	PALB2	NM_024675.3	79728	16	23634280	23634461	437.4	100.0
PALB2 NM_024675.3 79728 16 23640515 23640606 496.1 100.0 PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23646173 23647665 499.5 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433395	PALB2	NM_024675.3	79728	16	23635320	23635425	569.6	100.0
PALB2 NM_024675.3 79728 16 23640951 23641800 468.7 100.0 PALB2 NM_024675.3 79728 16 23646173 23647665 499.5 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_024675.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 3343063 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433957 370.1 100.0 RAD51D NM_002878.3 5892 17 33433997 33434510	PALB2	NM_024675.3	79728	16	23637547	23637728	491.3	100.0
PALB2 NM_024675.3 79728 16 23646173 23647665 499.5 100.0 PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33445610	PALB2	NM_024675.3	79728	16	23640515	23640606	496.1	100.0
PALB2 NM_024675.3 79728 16 23649161 23649283 580.3 100.0 PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430263 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510	PALB2	NM_024675.3	79728	16	23640951	23641800	468.7	100.0
PALB2 NM_024675.3 79728 16 23649381 23649460 513.3 100.0 PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33428210 33428394 471.6 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 3343395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 3343397 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33445510	PALB2	NM_024675.3	79728	16	23646173	23647665	499.5	100.0
PALB2 NM_024675.3 79728 16 23652421 23652688 347.7 100.0 RAD51D NM_002878.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33428210 33428394 471.6 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433955 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	PALB2	NM_024675.3	79728	16	23649161	23649283	580.3	100.0
RAD51D NM_002878.3 5892 17 33427961 33428065 370.1 100.0 RAD51D NM_002878.3 5892 17 33428210 33428394 471.6 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	PALB2	NM_024675.3	79728	16	23649381	23649460	513.3	100.0
RAD51D NM_002878.3 5892 17 33428210 33428394 471.6 100.0 RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33434975 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	PALB2	NM_024675.3	79728	16	23652421	23652688	347.7	100.0
RAD51D NM_002878.3 5892 17 33430263 33430353 491.7 100.0 RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	RAD51D	NM_002878.3	5892	17	33427961	33428065	370.1	100.0
RAD51D NM_002878.3 5892 17 33430463 33430573 370.1 100.0 RAD51D NM_002878.3 5892 17 33433395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	RAD51D	NM_002878.3	5892	17	33428210	33428394	471.6	100.0
RAD51D NM_002878.3 5892 17 33433395 33433510 350.2 100.0 RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	RAD51D	NM_002878.3	5892	17	33430263	33430353	491.7	100.0
RAD51D NM_002878.3 5892 17 33433997 33434151 331.4 100.0 RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	RAD51D	NM_002878.3	5892	17	33430463	33430573	370.1	100.0
RAD51D NM_002878.3 5892 17 33434375 33434476 383.7 100.0 RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	RAD51D	NM_002878.3	5892	17	33433395	33433510	350.2	100.0
RAD51D NM_002878.3 5892 17 33445510 33445648 369.7 100.0 RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	RAD51D	NM_002878.3	5892	17	33433997	33434151	331.4	100.0
RAD51D NM_002878.3 5892 17 33446120 33446201 378.0 100.0	RAD51D	NM_002878.3	5892	17	33434375	33434476	383.7	100.0
	RAD51D	NM_002878.3	5892	17	33445510	33445648	369.7	100.0
RAD51D NM_002878.3 5892 17 33446541 33446898 347.0 100.0	RAD51D	NM_002878.3	5892	17	33446120	33446201	378.0	100.0
	RAD51D	NM_002878.3	5892	17	33446541	33446898	347.0	100.0

BRCA1	NM_007294.3	672	17	41197684	41197829	350.6	100.0
BRCA1	NM_007294.3	672	17	41199650	41199730	461.4	100.0
BRCA1	NM_007294.3	672	17	41201128	41201221	346.2	100.0
BRCA1	NM_007294.3	672	17	41203070	41203144	455.6	100.0
BRCA1	NM_007294.3	672	17	41209059	41209162	348.1	100.0
BRCA1	NM_007294.3	672	17	41215340	41215400	387.0	100.0
BRCA1	NM_007294.3	672	17	41215881	41215978	531.8	100.0
BRCA1	NM_007294.3	672	17	41219615	41219722	445.1	100.0
BRCA1	NM_007294.3	672	17	41222935	41223265	400.9	100.0
BRCA1	NM_007294.3	672	17	41226338	41226548	456.2	100.0
BRCA1	NM_007294.3	672	17	41228495	41228641	613.2	100.0
BRCA1	NM_007294.3	672	17	41234411	41234602	461.8	100.0
BRCA1	NM_007294.3	672	17	41242951	41243059	434.5	100.0
BRCA1	NM_007294.3	672	17	41243442	41246887	453.4	100.0
BRCA1	NM_007294.3	672	17	41247853	41247949	387.7	100.0
BRCA1	NM_007294.3	672	17	41249251	41249316	605.1	100.0
BRCA1	NM_007294.3	672	17	41251782	41251907	456.8	100.0
BRCA1	NM_007294.3	672	17	41256129	41256288	559.1	100.0
BRCA1	NM_007294.3	672	17	41256875	41256983	437.5	100.0
BRCA1	NM_007294.3	672	17	41258463	41258560	563.1	100.0
BRCA1	NM_007294.3	672	17	41267733	41267806	521.3	100.0
BRCA1	NM_007294.3	672	17	41276024	41276142	593.8	100.0
BRCA1	NM_007294.3	672	17	41277278	41277510	328.3	100.0
RAD51C	NM_058216.2	5889	17	56769924	56770159	324.5	100.0
RAD51C	NM_058216.2	5889	17	56772282	56772560	480.3	100.0
RAD51C	NM_058216.2	5889	17	56774044	56774230	508.5	100.0
RAD51C	NM_058216.2	5889	17	56780547	56780700	663.0	100.0
RAD51C	NM_058216.2	5889	17	56787210	56787361	604.6	100.0
RAD51C	NM_058216.2	5889	17	56798097	56798183	556.3	100.0
RAD51C	NM_058216.2	5889	17	56801391	56801471	492.1	100.0
RAD51C	NM_058216.2	5889	17	56809835	56809915	590.4	100.0
RAD51C	NM_058216.2	5889	17	56811469	56811594	467.3	100.0
BRIP1	NM_032043.2	83990	17	59760646	59761511	532.9	100.0

BRIP1	NM_032043.2	83990	17	59763187	59763536	503.5	100.0
DDIDA	NIM 000040.0	00000	47	50770704	50770000	500.5	100.0
BRIP1	NM_032043.2	83990	17	59770781	59770883	560.5	100.0
BRIP1	NM_032043.2	83990	17	59793302	59793434	524.3	100.0
BRIP1	NM_032043.2	83990	17	59820364	59820505	610.3	100.0
BRIP1	NM_032043.2	83990	17	59821783	59821962	545.7	100.0
BRIP1	NM_032043.2	83990	17	59853752	59853933	528.3	100.0
BRIP1	NM_032043.2	83990	17	59857612	59857772	551.1	100.0
BRIP1	NM_032043.2	83990	17	59858191	59858376	611.3	100.0
BRIP1	NM_032043.2	83990	17	59861621	59861795	615.5	100.0
BRIP1	NM_032043.2	83990	17	59870948	59871100	622.6	100.0
BRIP1	NM_032043.2	83990	17	59876451	59876670	454.3	100.0
BRIP1	NM_032043.2	83990	17	59878604	59878845	520.4	100.0
BRIP1	NM_032043.2	83990	17	59885818	59886128	460.3	100.0
BRIP1	NM_032043.2	83990	17	59924452	59924591	716.3	100.0
BRIP1	NM_032043.2	83990	17	59926480	59926627	579.7	100.0
BRIP1	NM_032043.2	83990	17	59934409	59934602	519.4	100.0
BRIP1	NM_032043.2	83990	17	59937147	59937278	544.3	100.0
BRIP1	NM_032043.2	83990	17	59938798	59938940	657.0	100.0
BRIP1	NM_032043.2	83990	17	59940635	59940930	383.1	100.0