

Table S7. *BRCA1* classification results of lumB *BRCA1* ($n = 9$) and lumB sporadic ($n = 48$) tumors obtained using leave-one-out cross-validation. See Materials and methods section for more details. Mutations are all known pathogenic mutation described using HGVS nomenclature.

SampleID	Group	Age	Prediction	WHO	Grade	Mutation	Functional effects
A086	<i>BRCA1</i>	28	Sporadic	IDC	1	<i>BRCA1</i> c.2475delC, Exon11, p.(Asp825Gluufs*21)	FS
A016	<i>BRCA1</i>	39	<i>BRCA1</i>	IDC	1	<i>BRCA1</i> c.2476delA, Exon11, p.(Thr826Glnfs*20)	FS
A120	<i>BRCA1</i>	46	Sporadic	NA	NA	<i>BRCA1</i> c.2475delC, Exon11, p.(Asp825Gluufs*21)	FS
A129	<i>BRCA1</i>	52	Sporadic	IDC	1	<i>BRCA1</i> c.115T>G, Exon3, p.(Cys39Gly)	MS
A133	<i>BRCA1</i>	57	<i>BRCA1</i>	IDC	3	<i>BRCA1</i> c.5266dupC, Exon20, p.(Gln1756Profs*74)	FS
A007	<i>BRCA1</i>	57	Sporadic	IDC	2	<i>BRCA1</i> c.5503C>T, Exon24, p.(Arg1835*)	NS
A125	<i>BRCA1</i>	62	<i>BRCA1</i>	IDC	3	<i>BRCA1</i> c.2475delC, Exon11, p.(Asp825Gluufs*21)	FS
A170	<i>BRCA1</i>	72	Sporadic	IDC	3	<i>BRCA1</i> c.4987-?_5193+?del, Exon17-19, p.(Met1663_Glu1731del)	Exon del (IF)
A174	<i>BRCA1</i>	74	<i>BRCA1</i>	IDC	3	<i>BRCA1</i> c.4987-?_5193+2del, Exon17-19, p.(Met1663_Glu1731del)	Exon del (IF)
K058	Sporadic	36	Sporadic	IDC	3	-	
K046	Sporadic	43	Sporadic	IDC	3	-	
K083	Sporadic	43	Sporadic	IDC	3	-	
K079	Sporadic	43	Sporadic	IDC	3	-	
K011	Sporadic	44	Sporadic	IDC	3	-	
K123	Sporadic	44	Sporadic	IDC	2	-	
K088	Sporadic	47	Sporadic	IDC	2	-	
K074	Sporadic	48	Sporadic	ILC	2	-	
K021	Sporadic	49	Sporadic	IDC	2	-	
K056	Sporadic	50	Sporadic	IDC	1	-	
K113	Sporadic	50	Sporadic	IDC	1	-	
K114	Sporadic	50	<i>BRCA1</i>	IDC	2	-	
K057	Sporadic	51	Sporadic	IDC	2	-	
K064	Sporadic	51	Sporadic	IDC	2	-	
K089	Sporadic	53	Sporadic	IDC	2	-	
K055	Sporadic	54	<i>BRCA1</i>	Medullary	NA	-	
K052	Sporadic	58	<i>BRCA1</i>	IDC	3	-	
K148	Sporadic	60	Sporadic	IDC	3	-	
K082	Sporadic	60	Sporadic	IDC	2	-	
K155	Sporadic	61	Sporadic	IDC	2	-	
K043	Sporadic	63	Sporadic	IDC	2	-	
K031	Sporadic	64	Sporadic	IDC	2	-	
K086	Sporadic	64	Sporadic	IDC	2	-	
K108	Sporadic	64	Sporadic	ILC	NA	-	
K147	Sporadic	65	Sporadic	IDC	2	-	
K179	Sporadic	66	Sporadic	IDC	2	-	
K013	Sporadic	69	Sporadic	Other	NA	-	
K175	Sporadic	71	<i>BRCA1</i>	IDC	3	-	
K120	Sporadic	72	<i>BRCA1</i>	IDC	2	-	
K151	Sporadic	72	Sporadic	IDC	2	-	
K142	Sporadic	74	Sporadic	NA	NA	-	
K091	Sporadic	74	<i>BRCA1</i>	IDC	3	-	
K003	Sporadic	75	Sporadic	IDC	2	-	
K150	Sporadic	75	Sporadic	IDC	2	-	
K062	Sporadic	75	Sporadic	IDC	2	-	
K133	Sporadic	76	<i>BRCA1</i>	Other	NA	-	
K027	Sporadic	77	Sporadic	IDC	2	-	
K019	Sporadic	78	Sporadic	IDC	2	-	
K128	Sporadic	81	<i>BRCA1</i>	IDC	2	-	
K054	Sporadic	82	Sporadic	IDC	3	-	
K171	Sporadic	83	Sporadic	IDC	1	-	
K165	Sporadic	85	Sporadic	IDC	1	-	
K038	Sporadic	85	<i>BRCA1</i>	IDC	2	-	
K101	Sporadic	85	Sporadic	ILC	NA	-	
K080	Sporadic	86	Sporadic	Tubular	NA	-	
K066	Sporadic	87	<i>BRCA1</i>	Mucinous	NA	-	
K154	Sporadic	88	Sporadic	IDC	3	-	
K045	Sporadic	89	Sporadic	IDC	2	-	

Abbreviations: MS, missense mutation; FS, frameshift mutation; NS, nonsense mutation; IF, in-frame mutation