

## Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Genes Sequenced on the Germline and Somatic Panels							
GENES ON MESOTHELIOMA GERMLINE PANEL ONLY		GENES ON TUMOR PANEL ONLY				GENES ON BOTH PANELS	
ANKR26	NM_014915.2	ABL1	NM_005157.6	HIST1H3C	NM_003531.3	APC	NM_000038.5
BMPR1A	NM_004329.2	AKT1	NM_001382430.1	HNF1A	NM_000545.8	ATM	NM_000051.3
BRIP1	NM_032043.2	ALK	NM_004304.5	HRAS	NM_005343.4	ATR	NM_001184.4
CD36	NM_000072.3	ARID1A	NM_006015.6	IDH1	NM_005896.4	BAP1	NM_004656.3
EPCAM	NM_002354.2	ARID2	NM_152641.4	IDH2	NM_002168.4	BARD1	NM_000465.4
ERCC4	NM_005236.2	ASXL1	NM_015338.6	ITPKB	NM_002221.4	BLM	NM_000057.3
FANCB	NM_001018113.2	AXL	NM_021913.5	JAK2	NM_004972.4	BRCA1	NM_007294.4
FANCC	NM_000136.2	B2M	NM_004048.4	KDR	NM_002253.4	BRCA2	NM_000059.3
FANCD2	NM_033084.4	BIRC3	NM_001165.5	KIT	NM_000222.3	CBL	NM_005188.3
FANCE	NM_021922.2	BRAF	NM_001374258.1	KMT2A	NM_001197104.2	CDH1	NM_004360.4
FANCF	NM_022725.3	CALR	NM_004343.4	KRAS	NM_004985.5	CDK4	NM_000075.3
FANCG	NM_004629.1	CBLB	NM_170662.5	MAP2K1	NM_002755.4	CKDN2A	NM_000077.4
FANCI	NM_001113378.1	CCND1	NM_053056.3	MAPK1	NM_002745.5	CEBPA	NM_004364.4
FANCL	NM_018062.3	CCND2	NM_001759.4	MDM2	NM_002392.6	CHEK1	NM_001114121.2
FANCM	NM_020937.3	CCND3	NM_001760.5	MET	NM_000245.4	CHEK2	NM_007194.4
LIG4	NM_002312.3	CDK6	NM_001145306.2	MLH3	NM_001040108.2	DDX41	NM_016222.3
HAX1	NM_002382.4	CSF1R	NM_001288705.3	MPL	NM_005373.3	ETV6	NM_001987.5
MEN1	NM_130799.2	CSF3R	NM_000760.4	MTOR	NM_004958.4	FANCA	NM_000135.3
MUTYH	NM_001128425.1	CTCF	NM_006565.4	MYC	NM_002467.6	FH	NM_000143.3
NPAT	NM_002519.2	CTNNA1	NM_001903.5	MYCN	NM_005378.6	GATA2	NM_032638.4
PAX5	NM_016734.2	CTNNB1	NM_001904.4	MYD88	NM_002468.5	IKZF1	NM_006060.6
PMS1	NM_000534.4	CUX1	NM_181552.4	NFE2L2	NM_006164.5	MLH1	NM_000249.3
PMS2	NM_000535.6	CXCR4	NM_003467.3	NOTCH1	NM_017617.5	MRE11A	NM_005591.3
POLD1	NM_002691.3	DAXX	NM_001141969.2	NOTCH2	NM_024408.4	MSH2	NM_000251.3
RAD50	NM_005732.3	DDR2	NM_006182.4	NPM1	NM_002520.7	MSH6	NM_000179.3
RTEL1	NM_001283009.2	DICER1	NM_177438.3	NRAS	NM_002524.5	NBN	NM_002485.4
	NM_032957.5	DNMT3A	NM_022552.5	PBRM1	-	NF1	NM_000267.3
SAMD9L	NM_152703.4	EGFR	NM_005228.5	PDGFRA	NM_006206.6	NF2	NM_000268.3
SLX4	NM_032444.3	EP300	NM_001429.4	PDGFRB	NM_002609.4	PALB2	NM_024675.3
SRP72	NM_006947.3	EPHA3	NM_005233.6	PIK3CA	NM_006218.4	POLE	NM_006231.3
TERC	NR_001566.1	EPHA5	NM_001281766.3	PIK3CB	NM_006219.3	POT1	NM_015450.3
TMEM127	NM_017849.3	ERBB2	NM_004448.4	PIK3R1	NM_181523.3	PTEN	NM_000314.7
WRN	NM_000553.5	ERBB3	NM_001982.4	PLCG2	NM_002661.5	PTPN11	NM_002834.4
XRCC2	NM_005431.2	ERBB4	NM_005235.3	PPP2R1A	NM_014225.6	RAD51	NM_002875.4
XRCC3	NM_005432.4	ERCC3	NM_000122.2	PTCH1	NM_000264.5	RAD51C	NM_058216.3
		ESR1	NM_018010.4	RAD21	NM_006265.3	RAD51D	NM_002878.3
		EZH2	NM_004456.5	RB1	NM_000321.3	RET	NM_020975.5
		FAT3	NM_001367949.2	SETBP1	NM_015559.3	RUNX1	NM_001754.4
		FBXW7	NM_001349798.2	SF3B1	NM_006842.3	SAMD9	NM_017654.3
		FGFR1	NM_023110.3	SMARCB1	NM_003073.5	SDHA	NM_004168.4
		FGFR2	NM_000141.5	SMC3	NM_005445.4	SDHAF2	NM_017841.2
		FGFR3	NM_000142.5	SMO	NM_005631.5	SDHB	NM_003000.2
		FLT3	NM_004119.3	SRSF2	NM_001195427.2	SDHC	NM_003001.3
		FOXL2	NM_023067.4	STAT3	NM_139276.3	SDHD	NM_003002.4
		GNA11	NM_002067.5	STAT5B	NM_012448.4	SMAD4	NM_005359.5
		GNAQ	NM_002072.5	TET2	NM_001146069.2	STK11	NM_000455.4
		GNAS	NM_000516.7	TSC1	NM_000368.5	TERT	NM_198253.2
		GRIN2A	NM_001134407.3	TSC2	NM_000548.5	TP53	NM_000546.6
		H3F3A	NM_002107.7			VHL	NM_000551.3

<b>eTable 2.</b> Timeline of Multiple Cancer Diagnoses in Patients With Germline Variants						
Pat #	First Cancer Dx	Age at Dx	Second Cancer Dx	Age at Dx	Third Cancer Dx	Age at Dx
1	<b>Peritoneal Mesothelioma</b>	57	Breast	58	NA	NA
2	Thyroid	30*	<b>Pleural Mesothelioma</b>	84	NA	NA
3	DLBCL	76	<b>Pleural Mesothelioma</b>	88	NA	NA
7	Melanoma	55	Bladder	59	<b>Peritoneal Mesothelioma</b>	65
10	Renal Cell Carcinoma	61	<b>Peritoneal Mesothelioma</b>	61	NA	NA
14	Prostate	60	<b>Pleural Mesothelioma</b>	60	NA	NA
16	Waldenstrom Macroglobulinemia	75	<b>Prostate</b>	76	<b>Pleural Mesothelioma</b>	77
17	Breast	46	<b>Pleural Mesothelioma</b>	74	NA	NA
20	Paraganglioma	75	<b>Pleural Mesothelioma</b>	75	NA	NA
*Approximation based on limited clinical information						

eTable 3. Immunohistochemical Characteristics							
			Patients with Pathogenic or Likely Pathogenic Germline Genetic Variants		Patients without Pathogenic or Likely Pathogenic Germline Genetic Variants		p-Value
Immunohistochemistry Characteristics			<i>n</i>	[%]	<i>n</i>	[%]	
			25	16%	136	86%	
		Tumor BAP1 Status					
		Retained	6	24%	49	36%	0.295
		Lost	17	68%	69	51%	0.277
		No Data	2	8%	18	13%	
		Tumor PD-L1 Status					
		Positive	14	56%	61	45%	0.380
		Negative	9	36%	49	36%	0.717
		No Data	2	8%	26	19%	0.799
% of PD-L1 Positive Tumor Cells							
		0-5%	7	50%	21	34%	0.450
		6-20%	2	14%	9	15%	0.971
		21-40%	2	14%	11	18%	0.891
		41-60%	2	14%	16	26%	0.711
		>61%	1	7%	4	7%	1.000
PD-L1 Staining Intensity							
		Weak	5	36%	32	52%	0.506
		Weak to Moderate	3	21%	10	16%	0.84
		Moderate	3	21%	6	10%	0.65
		Moderate to Strong	0	0%	6	10%	-
		Strong	0	0%	2	3%	-
		No Data	3	21%	5	8%	

			Pathogenic or Likely Pathogenic Variants & Nonvariants in the Germline							
			<i>ATM</i>		<i>BAP1</i>		<i>CHEK2</i>		OTHER	
Immunohistochemistry Characteristics			n	%	n	%	n	%	n	%
			3	17%	8	28%	6	33%	5	28%
		<b>Tumor BAP1 Status</b>								
		Retained	1	33%	0	0%	0	0%	2	40%
		Lost	2	67%	7	88%	5	83%	2	40%
		No Data	0	0% <sup>a</sup>	1	13%	1	17%	1	20%
		<b>Tumor PD-L1 Status</b>								
		Positive	2	67%	4	50%	6	100%	2	40%
		Negative	1	33%	3	38%	0	0%	3	60%
		No Data	0	0	1	13%	0	0%	0	0%

% of PD-L1 Positive Tumor Cells										
		0-5%	0	0%	2	50%	3	50%	2	100%
		6-20%	0	0%	2	50%	0	0%	0	0%
		21-40%	1	50%	0	0%	1	17%	0	0%
		41-60%	1	50%	0	0%	1	17%	0	0%
		>61%	0	0%	0	0%	1	17%	0	0%
PD-L1 Staining Intensity										
Weak			0	0%	1	33%	2	40%	1	50%
Weak to Moderate			0	0%	0	0%	3	60%	0	0%
Moderate			2	0%	1	33%	0	0%	0	0%
Moderate to Strong			0	100%	0	0%	0	0%	0	0%
Strong			0	0%	0	0%	0	0%	0	0%
No Data			0	0%	1	33%	1	17%	1	50%

**eTable 4.** P/LP Somatic Variants Detected on Tumor NGS

<i>Patient</i>	<i>Gene</i>	<i>Variant</i>	<i>Tumor VAF</i>	<i>Gender</i>	<i>Site of Disease</i>	<i>Histology</i>
1	<i>ATM</i>	c.4909_1G>T, p.?	50%	Female	Peritonea l	Epithelioid
	<i>BAP1</i>	c.740del, p.V247Gfs*2	31%			
2	<i>ATM</i>	c.5932G>T, p.E1978*	44%	Male	Pleural	Epithelioid
	<i>BAP1</i>	c.266del, p.N89Tfs*9	16%			
3	<i>ATM</i>	c.6154G>A, p.Q2052K	48%	Male	Pleural	Epithelioid
	<i>ATR</i>	c.6201dup, p.P2068Tfs*5	32%			
	<i>BAP1</i>	c.659+1G>T, p.?	56%			
	<i>NF2</i>	c.448-2A>C, p.?	7%			
	<i>TP53</i>	c.532dup, p.H178Pfs*3	49%			
4	<i>ATR</i>	c.1327A>T, p.R443*	54%	Male	Pleural	Epithelioid
	<i>PALB2</i>	c.2587-1G>T, p.?	8%			
	<i>TP53</i>	Loss - Equivocal	-			
5	<i>BAP1</i>	c.1717del, p.L573Wfs*3	78%	Female	Peritonea l	Epithelioid
6	<i>BAP1</i>	c.1717del, p.L573Wfs*3	43%	Female	Pleural	Epithelioid
7	<i>BAP1</i>	c.1717del, p.L573Wfs*3	51%	Female	Peritonea l	Epithelioid
	<i>BAP1</i>	c.1949_1956delinsC, p.L650Pfs*3	18%			
8	<i>BAP1</i>	c.1330del ,p.T44Pfs*127	25%	Male	Bicavitary	Epithelioid
	<i>BAP1</i>	c.778C>T, e p.Q260*	52%			
	<i>CTNNA1</i>	c.468dup, p.V157Cfs*14	22%			
	<i>NF1</i>	c.1844del, p.K615Sfs*16	5%			
9	<i>BAP1</i>	c.376_377del, p.?	46%	Male	Peritonea l	Epithelioid
	<i>BAP1</i>	c.437+2A>T, p.?	23%			
	<i>CSF1R</i>	c.2276_2280del, p.L756Pfs*23	18%			
10	<i>BAP1</i>	c.272dup, p.C91Wfs*35	88%	Male	Peritonea l	Epithelioid
	<i>BAP1</i>	Loss	-			
11	<i>BAP1</i>	c.68-2A>G, p.?	24%	Female	Pleural	Epithelioid
	<i>TP53</i>	c.681dup, p.D228*	20%			
12	<i>BAP1</i>	c.178C>T, p.R60*	46%	Male	Peritonea l	Epithelioid
	<i>DDX3X</i>	c.968C>T, p.T323I	52%			
13	<i>EPHA5</i>	c.511dup, p.Y171Lfs*5	8%	Male	Peritonea l	Epithelioid
14	<i>BAP1</i>	c.37+9_122+60del, p.?	8%	Male	Pleural	Epithelioid
15	<i>BAP1</i>	c.354_358del, p.F118Lfs*6	21%	Male	Pleural	Biphasic
	<i>CHEK2</i>	c.277del, p.W93Gfs*17	49%			
	<i>DDX3X</i>	c.1056_1061del, p.M352_D354delins	34%			
16	<i>BAP1</i>	c.581-2del, p.?	76%	Male	Pleural	Epithelioid
	<i>DDX3X</i>	c.1438dup, p.R480Kfs*38	83%			
	<i>NF2</i>	c.114G>A, p.E38E	11%			

17	<i>BAP1</i>	c.1321C>T, p.Q441*	9%	Male	Pleural	Epithelioid
	<i>CHEK2</i>	c.1100del, p.T367Mfs*15	42%			
	<i>DDX3X</i>	c.976C>T, p.R326C	20%			
	<i>NF2</i>	c.115G>A, p.E38E	11%			
18	<i>CHEK2</i>	c.1100del, p.T367Mfs*15	45%	Female	Pleural	Biphasic
	<i>MET</i>	c.3082+2T>C, p.?	24%			
	<i>NF1</i>	c.7188del, p.Y2398Tfs*20	9%			
19	-	None	-	Female	Peritonea l	Epithelioid
20	<i>BAP1</i>	c.256-1_259del, p.?	4%	Female	Pleural	Epithelioid
	<i>DDX41</i>	c.490C>T, p.R164W	46%			
21	<i>NF2</i>	c.1009C>T, p.Q337*	14%	Male	Pleural	Epithelioid
	<i>TP53</i>	Loss - Equivocal	-			
22	<i>BAP1</i>	c.2526-1G>A, p.?	55%	Female	Pleural	Epithelioid
	<i>CDKN2A</i>	Loss - Equivocal	-			
	<i>MRE11A</i>	c.1222dup, p.T408Nfs*49	46%			
	<i>NF2</i>	c.702_732del, p.G235Tfs*6	46%			
	<i>TP53</i>	c.528C>G, p.C176W	49%			
23	<i>MSH6</i>	c.3261dup, p.F1088Lfs*5	22%	Male	Pleural	Epithelioid
	<i>PTEN</i>	c.493G>C, p.G165R	49%			
24	<i>BAP1</i>	Rearrangement	-	Male	Pleural	Epithelioid
25	<i>CDKN2A</i>	Rearrangement	-	Male	Peritonea l	Epithelioid
	<i>NF1</i>	c.4947del, p.P1650Lfs*48	47%			
26	-	None	-	Female	Pleural	Epithelioid
27	<i>BAP1</i>	Loss	-	Male	Pleural	Epithelioid
28	<i>BAP1</i>	c.582del, p.W196Gfs*35	40%	Male	Pleural	Epithelioid
29	<i>MLH3</i>	c.3367C>T, p.Q1123*	49%	Male	Pleural	Epithelioid
	<i>PTEN</i>	c.121del, p.R41Dfs*13	26%			
	<i>TP53</i>	c.818G>T, p.R273L	43%			
30	-	None	-	Male	Peritonea l	Epithelioid
31	<i>BAP1</i>	Loss/Rearrangement	-	Male	Pleural	Epithelioid
	<i>TP53</i>	Loss	-			
32	<i>BAP1</i>	c.253C>A< p.Q85K	47%	Male	Pleural	Epithelioid
	<i>DDX3X</i>	c.546del, p.F182Lfs*39	54%			
33	<i>BAP1</i>	c.2012_2013insAA, p.Tyr671*	19%	Male	Pleural	Epithelioid
	<i>NF2</i>	c.616G>T, p.E206*	16%			
34	<i>CDKN2A</i>	Loss	-	Male	Pleural	Epithelioid
35	<i>BAP1</i>	c.376-25_376del, p.?	22%	Male	Peritonea l	Epithelioid
	<i>BAP1</i>	c.583_591del, p.P195_G197del	26%			
36	<i>BAP1</i>	c.1909_1910del, p.K637Vfs*5	21%	Male	Pleural	Epithelioid
37	<i>BRCA2</i>	c.8331+2T>C, p.?	22%	Female	Pleural	Biphasic
38	-	None	-	Female	Peritonea l	Epithelioid

39	-	None	-	Male	Pleural	Epithelioid
40	<i>BAP1</i>	575del, p.D192Afs*39	14%	Male	Peritonea 	Epithelioid
41	<i>DDX3X</i>	c.1676T>A, p.L559H	32%	Male	Peritonea 	Epithelioid
42	<i>BAP1</i>	c.860C>G, p.S287*	16%	Male	Pleural	Epithelioid
43	<i>BAP1</i>	c.200A>G, p.D67G	17%	Male	Peritonea 	Epithelioid
	<i>DDX3X</i>	c.1423C>T, p.R475C	16%			
44	<i>TP53</i>	Rearrangement	-	Female	Pleural	Epithelioid
45	<i>BAP1</i>	Loss - Equivocal	-	Male	Pleural	Epithelioid
	<i>BAP1</i>	Rearrangement	-			
	<i>CDKN2A</i>	Loss	-			
	<i>NF2</i>	Loss	-			
46	<i>BAP1</i>	Rearrangement	-	Male	TVT	Epithelioid
47	<i>B2M</i>	c.246_247del, p.F82Lfs*7	36%	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	c.341C>T, p.P114L	24%			
	<i>NF2</i>	c.1246C>T, p.R416*	34%			
	<i>NRAS</i>	c.182A>T, p.Q61L	29%			
	<i>TERT</i>	c.-124C>T, p.=	16%			
	<i>TP53</i>	c.396G>C, p.K132N	45%			
48	<i>NF2</i>	c.105_106insT, p.N36*	38%	Male	Peritonea 	Epithelioid
49	<i>ARID2</i>	c.4732C>T, p.Q1578*	43%	Male	Pleural	Epithelioid
	<i>BAP1</i>	Rearrangement	-			
	<i>CDKN2A</i>	Loss	-			
	<i>CUX1</i>	c.3327dup, p.D11110Rfs*65	9%			
50	<i>TP53</i>	c.524G>A, p.R175H	11%	Male	Pleural	Epithelioid
	<i>TP53</i>	c.818G>A, p.R273H	9%			
51	<i>FBXW7</i>	c.2065C>T, p.R689W	16%	Male	Pleural	Epithelioid
52	<i>BAP1</i>	c.1679dup, p.L561Pfs*6	66%	Female	Pleural	Biphasic
	<i>CDKN2A</i>	Loss	-			
53	<i>DDX3X</i>	c.1102_1106delinsa, p.D368lfs*11	23%	Male	Peritonea 	Epithelioid
54	<i>NF2</i>	Loss - Equivocal	-	Male	TVT	Epithelioid
	<i>STK11</i>	Rearrangement	-			
55	<i>BAP1</i>	c.1360G>T, p.E454*	41%	Male	Pleural	Epithelioid
	<i>NF2</i>	c.276_299del, p.T93_F100del	44%			
56	<i>BAP1</i>	Loss	-	Male	Peritonea 	Epithelioid
	<i>TP53</i>	c.155_158dup, p.W53*	10%			
	<i>TP53</i>	Loss - Equivocal	-			
57	<i>CDKN2A</i>	c.332del, p.G111Afs*35	20%	Male	Pleural	Sarcomtoid
	<i>TERT</i>	c.-124C>T, p.=	22%			
	<i>TP53</i>	c.734G>C, p.G245V	26%			
58	<i>BAP1</i>	Loss - Equivocal	-	Female	Blcavitary	Epithelioid
	<i>STK11</i>	c.375-1C>T, p.?	28%			



59	<i>BAP1</i>	Loss	-	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	Loss - Equivocal	-			
	<i>TP53</i>	Loss - Equivocal	-			
60	<i>BAP1</i>	Rearrangement	-	Female	Peritonea 	Epithelioid
	<i>WT1</i>	c.1413_1432_55delinsT, p.?	29%			
61	<i>BAP1</i>	c.2057-2A>T, p.?	40%	Male	Peritonea 	Epithelioid
62	-	None	-	Male	Pleural	Epithelioid
63	<i>BAP1</i>	Loss	-	Female	Pleural	Epithelioid
64	<i>BAP1</i>	c.178C>T, p.R60*	21%	Male	Pleural	Epithelioid
	<i>NF2</i>	c.949G>T, p.E317*	22%			
	<i>TP53</i>	Loss - Equivocal	-			
65	<i>BAP1</i>	c.376-1G>A, p.?	22%	Female	Pleural	Epithelioid
	<i>NF2</i>	c.737del, p.P246Lfs*5	21%			
66	<i>BAP1</i>	Loss	-	Male	Peritonea 	Epithelioid
	<i>PBRM1</i>	c.899+2T>C, p.?	52%			
67	<i>BAP1</i>	c.2057073_2079del, p.?	18%	Male	Pleural	Epithelioid
	<i>TP53</i>	Loss - Equivocal	-			
68	<i>BAP1</i>	c.579_580dup, p.G194Vfs*38	28%	Male	Peritonea 	Epithelioid
69	<i>BAP1</i>	Loss - Equivocal	-	Female	Pleural	Epithelioid
	<i>PBRM1</i>	Rearrangement	-			
70	<i>BAP1</i>	c.1574_1599del, p.S525*	86%	Male	Pleural	Biphasic
	<i>CDKN2A</i>	Rearrangement/large-scale deletion	-			
	<i>PTEN</i>	c.388C>G, p.R130G	45%			
	<i>PTEN</i>	c.703dup, p.E235Gfs*8	9%			
71	<i>CDKN2A</i>	Loss - Equivocal	-	Female	Peritonea 	Epithelioid
	<i>NF2</i>	c.114+1G>A, p.?	11%			
72	<i>BAP1</i>	c.580+2T>C, p.?	20%	Female	Pleural	Sarcomtoid
	<i>CDKN2A</i>	Loss - Equivocal	-			
73	<i>ATM</i>	Rearrangement	-	Female	Peritonea 	Benign Multicystic
74	<i>TERT</i>	c.-124C>T, p.=	16%	Female	Pleural	Epithelioid
	<i>TP53</i>	Loss - Equivocal	-			
75	<i>CDKN2A</i>	c.173delinsCA, p.R58Pf*62	46%	Male	Pleural	Epithelioid
	<i>KRAS</i>	c.34G>T, p.G12C	55%			
	<i>TP53</i>	c.993+1G>A, p.?	45%			
76	<i>CHEK2</i>	c.920del, p.G307Efs*13	6%	Male	Pleural	Epithelioid
	<i>NF2</i>	Rearrangement/large-scale deletion	-			
77	<i>NF2</i>	c.51del, p.K17Nfs*8	22%	Male	Pleural	Biphasic
	<i>TP53</i>	c.403T>C, p.C135R	22%			
78	-	None	-	Female	Peritonea 	Epithelioid
79	<i>BAP1</i>	c.666del, p.Y223Tfs*8	22%	Male	Peritonea 	Epithelioid
	<i>NF2</i>	Rearrangement	-			

80	<i>FAT3</i>	c.9193delinsTAT, p.R3065Yfs*15	6%	Male	Pleural	Epithelioid
	<i>TP53</i>	Loss - Equivocal	-			
81	<i>CDKN2A</i>	Loss - Equivocal	-	Male	Pleural	Epithelioid
	<i>NF2</i>	c.970C>T, p.Q324*	8%			
	<i>TERT</i>	c.-146C>T, p.=	16%			
82	<i>TERT</i>	c.-124C>T, p.=	6%	Female	Pleural	Sarcomtoid
83	<i>NF2</i>	c.855dup, p.N286*	40%	Male	Pleural	Epithelioid
84	<i>BAP1</i>	Loss	-	Male	Pleural	Epithelioid
	<i>BAP1</i>	Rearrangement	-			
	<i>CDKN2A</i>	Loss	-			
	<i>FBXW7</i>	c.1394G>A, p.R465H	25%			
85	<i>NF2</i>	c.1340+1G>T, p.?	17%	Female	Pleural	Epithelioid
	<i>PBRM1</i>	Rearrangement	-			
86	<i>ARID2</i>	c.3565C>T, p.Q1189*	15%	Male	Pleural	Sarcomtoid
	<i>HNF1A</i>	c.814C>T, p.R272C	15%			
	<i>MSH6</i>	c.3725G>A, p.R1242H	14%			
	<i>NF2</i>	c.193C>T, p.Q65*	18%			
87	-	None	-	Male	Peritonea 	Epithelioid
88	<i>BAP1</i>	c.438-1_452del, p?	6%	Male	Peritonea 	Epithelioid
	<i>BAP1</i>	c.86T>G, p.V29G	50%			
89	-	None	-	Female	Peritonea 	Epithelioid
90	<i>BAP1</i>	c.68-1G>C, p.?	22%	Male	Pleural	Epithelioid
	<i>H3F3A</i>	c.110A>G, p.K37R	18%			
91	<i>BAP1</i>	Loss	-	Male	Peritonea 	Epithelioid
	<i>CDKN2A</i>	Loss - Equivocal	-			
	<i>CDKN2A</i>	Rearrangement/large-scale deletion	-			
	<i>STAG2</i>	c.894-11_921del, p,?	37%			
	<i>TP53</i>	Loss - Equivocal	-			
92	<i>BAP1</i>	c.1828A>T, p.R610*	44%	Female	Pleural	Epithelioid
93	<i>BAP1</i>	Rearrangement	-	Female	Pleural	Epithelioid
	<i>NF2</i>	c.449_468del, p.T150Cfs*46	23%			
94	-	None	-	Male	Peritonea 	Epithelioid
95	-	None	-	Female	Pleural	Epithelioid
96	<i>BAP1</i>	c.255G>T, p.Q85H	18%	Female	Pleural	Biphasic
	<i>TP53</i>	c.375G>A, p.T125T	23%			
97	<i>BAP1</i>	c.1063C>T, p.Q355*	20%	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	Rearrangement	-			
98	<i>BAP1</i>	Reaarangement	-	Female	Pleural	Epithelioid
	<i>NF2</i>	c.1188del, p.K396fs*30	19%			
99	<i>NF2</i>	c.364-2A>C, p.?	24%	Male	Peritonea 	Epithelioid

100	<i>BAP1</i>	c.1729+1G>A, p.?	60%	Female	Bicavitary	Epithelioid
101	<i>CDKN2A</i>	Loss	-	Male	Pleural	Epithelioid
	<i>NF2</i>	c.834_867del, p.K278Nfs*7	52%			
	<i>NF2</i>	Loss - Equivocal	-			
	<i>TP53</i>	Loss - Equivocal	-			
102	<i>BAP1</i>	c.71_87delinsACA, p.V24Dfs*40	21%	Male	Pleural	Epithelioid
103	<i>BAP1</i>	c.200A>G, p.D67G	21%	Male	Pleural	Epithelioid
104	<i>BAP1</i>	Loss	-	Female	Peritonea l	Epithelioid
	<i>PBRM1</i>	Loss	-			
105	<i>BAP1</i>	c.1941_1980delinsT, p.E647_F660delinsD	54%	Male	Pleural	Epithelioid
	<i>NF2</i>	c.655G>A, p. V219M	37%			
	<i>TP53</i>	c.154C>T, p.Q52*	37%			
106	<i>BAP1</i>	Loss	-	Female	Pleural	Biphasic
	<i>BAP1</i>	Rearrangement/large-scale deletion	-			
	<i>CDKN2A</i>	Loss	-			
	<i>TP53</i>	Loss - Equivocal	-			
107	<i>TP53</i>	c.578A>G, p.H193R	25%	Male	Pleural	Epithelioid
108	<i>TP53</i>	Loss - Equivocal	-	Male	Pleural	Epithelioid
109	<i>BAP1</i>	Loss	-	Female	Peritonea l	Epithelioid
	<i>PBRM1</i>	Loss	-			
110	<i>CDKN2A</i>	Loss	-	Male	Pleural	Epithelioid
	<i>TP53</i>	c.776A>T, p.D259V	56%			
111	<i>BAP1</i>	c.991_994del, .K331Pfs*3	38%	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	Loss	-			
112	<i>BAP1</i>	c.1152_1198del, p.S384Rfs*3	10%	Male	Peritonea l	Epithelioid
113	<i>BAP1</i>	c.1638C>G, p.Y546*	8%	Male	Pleural	Epithelioid
	<i>BAP1</i>	c.203A>G, p.D68G	8%			
	<i>CDKN2A</i>	Rearrangement	-			
114	<i>TP53</i>	c.736A>G, p.M246V	22%	Male	Pleural	Epithelioid
115	<i>BAP1</i>	c.2186_2189delinsC, p.*729Qdelins*205	68%	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	Loss	-			
	<i>MDM2</i>	Amplification	-			
116	-	None	-	Male	Pleural	Epithelioid
117	<i>TERT</i>	c.-124C>T, p.=	27%	Female	Pleural	Epithelioid
118	<i>CDKN2A</i>	Loss	-	Male	Pleural	Biphasic
119	-	None	-	Female	Pleural	Biphasic
120	<i>CDKN2A</i>	Rearrangement/Loss - Equivocal	-	Male	Pleural	Sarcomtoid
	<i>NF2</i>	c.970del, p.Q324Rfs*22	48%			
	<i>TERT</i>	c.-124C>T, p.=	55%			
121	<i>BAP1</i>	c.1911_1930delinsTTCCTGC, p.K637N*14	74%	Male	Peritonea l	Epithelioid
	<i>TP53</i>	Loss - Equivocal	-			
122	<i>PIK3CA</i>	c.1624G>A, p.E542K	26%	Female	Pleural	Epithelioid

123	<i>TP53</i>	c.637C>T, p.R213*	37%	Male	Pleural	Epithelioid
124	<i>CDKN2A</i>	Loss - Equivocal	-	Male	Pleural	Sarcomatoid
	<i>NF2</i>	c.1396C>T, p.R466*	39%			
	<i>TERT</i>	c.-124C>T, p.=	24%			
	<i>TP53</i>	Loss	-			
125	-	None	-	Male	Peritoneal	Epithelioid
126	<i>BAP1</i>	c.687C>G, p.N229K	27%	Male	Pleural	Epithelioid
127	<i>CDKN2A</i>	Loss	-	Male	Pleural	Epithelioid
	<i>TERT</i>	Amplification - Equivocal	-			
128	<i>BAP1</i>	Loss	-	Female	Bicavitary	Epithelioid
	<i>MLH3</i>	c.3563C>G, p.S1188*	54%			
129	<i>CDKN2A</i>	Loss	-	Male	Pleural	Biphasic
130	<i>BAP1</i>	c.1177C>T, p.Q393*	33%	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	Loss	-			
	<i>NF2</i>	Loss	-			
131	<i>ASXL1</i>	c.1772dup, p.T591*	6%	Male	Pleural	Epithelioid
	<i>BAP1</i>	Loss - Equivocal	-			
	<i>CDKN2A</i>	Loss	-			
	<i>NF2</i>	Rearrangement	-			
	<i>NF2</i>	Loss	-			
132	-	None	-	Male	Pleural	Biphasic
133	<i>BAP1</i>	c.1309_1311delinsT, p.L437Ffs*13	40%	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	Loss	-			
	<i>NF2</i>	c.784C>T, p.R262*	66%			
134	<i>NF2</i>	c.1446+1G>A, p.?	24%	Female	Peritoneal	Epithelioid
135	<i>KDM6A</i>	Rearrangement	-	Female	Pleural	Epithelioid
	<i>WT1</i>	Rearrangement	-			
136	<i>BAP1</i>	Rearrangement	-	Female	Pleural	Biphasic
	<i>MLH1</i>	Rearrangement	-			
	<i>TP53</i>	c.380C>T, p.S127F	42%			
137	-	None	-	Female	Pleural	Epithelioid
138	<i>CDKN2A</i>	Loss	-	Female	Peritoneal	Epithelioid
	<i>NF2</i>	c.100dup, p.E34Gfs*15	29%			
139	-	None	-	Female	Peritoneal	Epithelioid
140	-	None	-	Male	Pleural	Epithelioid
141	-	None	-	Male	Pleural	Epithelioid
142	-	None	-	Male	Pleural	Epithelioid
143	<i>CDKN2A</i>	Loss	-	Male	Pleural	Epithelioid
	<i>CS3FR</i>	c.2259_2313del, p.R754Afs*8	21%			
	<i>FBXW7</i>	c.585-60_605del, p.?	17%			
	<i>TP53</i>	Loss - Equivocal	-			

144	<i>CDKN2A</i>	Loss	-	Female	Pleural	Biphasic
	<i>NF2</i>	c.241del, p.V81Yfs*42	55%			
	<i>TP53</i>	c.666del, p.Y223Tfs*8	54%			
145	-	None	-	Female	Pleural	Epithelioid
146	<i>PBRM1</i>	Loss	-	Female	Peritonea l	Epithelioid
147	-	None	-	Male	Pleural	Sarcomtoid
148	<i>ARID2</i>	c.430C>T, p.Q144*	38%	Female	Pleural	Epithelioid
	<i>TERT</i>	c.-146C>T, p.=	24%			
	<i>TP53</i>	c.158G>A, p.W53*	14%			
	<i>TP53</i>	c.524G>A, p.R175H	6%			
	<i>TP53</i>	c.536A>G, p.H179R	12%			
149	<i>TP53</i>	c.1025G>C, p.R342P	8%	Male	Pleural	Epithelioid
150	<i>CDKN2A</i>	Rearrangement	-	Female	Pleural	Sarcomtoid
151	<i>ATM</i>	c.2239del, p.Q747Rfs*6	16%	Male	Peritonea l	Epithelioid
	<i>BAP1</i>	c.1730-1G>T, p.?	38%			
	<i>NF2</i>	c.389del, p.K130Rfs*44	33%			
152	<i>BAP1</i>	Loss	-	Female	Pleural	Epithelioid
	<i>TP53</i>	Loss	-			
153	<i>BAP1</i>	c.581-95_595del, p.?	25%	Male	Pleural	Epithelioid
154	<i>CDKN2A</i>	Loss	-	Female	Peritonea l	Epithelioid
	<i>NF2</i>	c.1126_1135del, p.S377Qfs*46	57%			
155	<i>CDKN2A</i>	Loss - Equivocal	-	Female	Pleural	Epithelioid
	<i>NF2</i>	Loss	-			
156	<i>MSH6</i>	c.3G>A, p.?	8%	Male	Peritonea l	Epithelioid
	<i>TERT</i>	c.-124C>T, p.=	5%			
157	<i>CDKN2A</i>	Loss	-	Female	Peritonea l	Epithelioid
	<i>TP53</i>	c.422G>A, p.C141Y	59%			
	<i>TP53</i>	Loss - Equivocal	-			
158	<i>BAP1</i>	Rearrangement	-	Male	Pleural	Epithelioid
159	<i>DDX3X</i>	c.1061A>T, p.D345V	29%	Male	Pleural	Epithelioid
160	-	None	-	Female	Bicavitary	Epithelioid
161	<i>BAP1</i>	c.553G>C, p.G185R	32%	Male	Pleural	Epithelioid
	<i>CDKN2A</i>	Loss - Equivocal	-			

**eTable 5.** rsID and ExAC Frequency of Pathogenic or Likely Pathogenic Germline Variants

Patient	Gene	rsID	ExAC frequency
1	<i>ATM</i>	rs756987454	-
2	<i>ATM</i>	rs587779852	7.00E-05
3	<i>ATM</i>	rs202206540	7.00E-05
4	<i>ATR</i>	-	-
5	<i>BAP1</i>	rs869025212	-
6	<i>BAP1</i>	rs869025212	-
7	<i>BAP1</i>	rs869025212	-
8	<i>BAP1</i>	rs84622592	-
9	<i>BAP1</i>	-	-
10	<i>BAP1</i>	-	-
11	<i>BAP1</i>	-	-
12	<i>BAP1</i>	rs1253151209	-
13	<i>CD36</i>	-	-
14	<i>CHEK2</i>	rs17879961	1.00E-03
15	<i>CHEK2</i>	rs786203458	-
16	<i>CHEK2</i>	rs142763740	3.80E-04
17	<i>CHEK2</i>	rs555607708	1.82E-03
18	<i>CHEK2</i>	rs555607708	1.82E-03
19	<i>CHEK2</i>	rs17879961	4.10E-03
20	<i>DDX41</i>	rs142143752	1.40E-04
21	<i>FANCM</i>	rs147021911	1.30E-03
9	<i>HAX1</i>	rs764082747	1.20E-04
22	<i>MRE11A</i>	rs774440500	-
23	<i>MSH6</i>	rs267608708	-
24	<i>MUTYH</i>	rs34612342	1.62E-03
25	<i>NF1</i>	-	-
10	<i>SAMD9L</i>	-	-
8	<i>TMEM127</i>	rs886039439	-