

S5 Table. Contrasting mutational frequency between oligometastasis and polymetastasis

Gene	Oligometastasis (n=77)		Polymetastasis (n=21)		p-value
	mutated gene number		mutated gene number		
	mutated gene frequency		mutated gene frequency		
	No.	Percentage	No.	Percentage	
<i>TP53</i>	49	63.64%	14	66.67%	1.000
<i>EGFR</i>	43	55.84%	13	61.90%	0.804
<i>ALK</i>	5	6.49%	5	23.81%	0.035
<i>ERBB2</i>	3	3.90%	5	23.81%	0.011
<i>MET</i>	7	9.09%	3	14.29%	0.443
<i>NF1</i>	4	5.19%	3	14.29%	0.166
<i>BARD1</i>	3	3.90%	3	14.29%	0.111
<i>LRP1B</i>	7	9.09%	2	9.52%	0.679
<i>MYC</i>	7	9.09%	2	9.52%	0.679
<i>PMS2</i>	6	7.79%	2	9.52%	0.679
<i>RET</i>	5	6.49%	2	9.52%	0.640
<i>ATM</i>	3	3.90%	2	9.52%	0.291
<i>CDH23</i>	3	3.90%	2	9.52%	0.291
<i>CTNNB1</i>	3	3.90%	2	9.52%	0.291
<i>DICER1</i>	3	3.90%	2	9.52%	0.291
<i>FOXA1</i>	3	3.90%	2	9.52%	0.291
<i>PTPRD</i>	3	3.90%	2	9.52%	0.291
<i>FGFR1</i>	2	2.60%	2	9.52%	0.200
<i>KDR</i>	2	2.60%	2	9.52%	0.200
<i>ROS1</i>	2	2.60%	2	9.52%	0.200
<i>DNMT3A</i>	1	1.30%	2	9.52%	0.115
<i>PDK1</i>	1	1.30%	2	9.52%	0.115
<i>MLL4</i>	0	0.00%	2	9.52%	0.044
<i>PIK3CB</i>	0	0.00%	2	9.52%	0.044
<i>TOP2A</i>	0	0.00%	2	9.52%	0.044
<i>CDKN2A</i>	17	22.08%	1	4.76%	0.109
<i>RB1</i>	10	12.99%	1	4.76%	0.448
<i>SMARCA4</i>	9	11.69%	1	4.76%	0.685
<i>KRAS</i>	8	10.39%	1	4.76%	0.679
<i>KEAP1</i>	7	9.09%	1	4.76%	0.679
<i>CDK4</i>	4	5.19%	1	4.76%	1.000

<i>DDR2</i>	4	5.19%	1	4.76%	1.000
<i>IL7R</i>	4	5.19%	1	4.76%	1.000
<i>KDM5A</i>	4	5.19%	1	4.76%	1.000
<i>MLL3</i>	4	5.19%	1	4.76%	1.000
<i>SMAD4</i>	4	5.19%	1	4.76%	1.000
<i>APC</i>	3	3.90%	1	4.76%	1.000
<i>ARID2</i>	3	3.90%	1	4.76%	1.000
<i>CCND1</i>	3	3.90%	1	4.76%	1.000
<i>FAT1</i>	3	3.90%	1	4.76%	1.000
<i>FAT2</i>	3	3.90%	1	4.76%	1.000
<i>MTOR</i>	3	3.90%	1	4.76%	1.000
<i>NKX2-1</i>	3	3.90%	1	4.76%	1.000
<i>PBRM1</i>	3	3.90%	1	4.76%	1.000
<i>RBM10</i>	3	3.90%	1	4.76%	1.000
<i>SLX4</i>	3	3.90%	1	4.76%	1.000
<i>ARID1A</i>	2	2.60%	1	4.76%	0.519
<i>BCOR</i>	2	2.60%	1	4.76%	0.519
<i>EPHA3</i>	2	2.60%	1	4.76%	0.519
<i>EPHB6</i>	2	2.60%	1	4.76%	0.519
<i>ERBB4</i>	2	2.60%	1	4.76%	0.519
<i>PTEN</i>	2	2.60%	1	4.76%	0.519
<i>SDHA</i>	2	2.60%	1	4.76%	0.519
<i>ABCC11</i>	1	1.30%	1	4.76%	0.384
<i>AFF3</i>	1	1.30%	1	4.76%	0.384
<i>AXIN1</i>	1	1.30%	1	4.76%	0.384
<i>C11orf30</i>	1	1.30%	1	4.76%	0.384
<i>CD274</i>	1	1.30%	1	4.76%	0.384
<i>CDK12</i>	1	1.30%	1	4.76%	0.384
<i>CUL3</i>	1	1.30%	1	4.76%	0.384
<i>EPHB2</i>	1	1.30%	1	4.76%	0.384
<i>FAM131B</i>	1	1.30%	1	4.76%	0.384
<i>FGF19</i>	1	1.30%	1	4.76%	0.384
<i>FGF3</i>	1	1.30%	1	4.76%	0.384
<i>FGF4</i>	1	1.30%	1	4.76%	0.384
<i>FGFR4</i>	1	1.30%	1	4.76%	0.384
<i>FLT4</i>	1	1.30%	1	4.76%	0.384

<i>HSP90AA1</i>	1	1.30%	1	4.76%	0.384
<i>KDM5C</i>	1	1.30%	1	4.76%	0.384
<i>MED12</i>	1	1.30%	1	4.76%	0.384
<i>NOTCH3</i>	1	1.30%	1	4.76%	0.384
<i>NTRK3</i>	1	1.30%	1	4.76%	0.384
<i>PDCD1LG2</i>	1	1.30%	1	4.76%	0.384
<i>TERT</i>	1	1.30%	1	4.76%	0.384
<i>TOP1</i>	1	1.30%	1	4.76%	0.384
<i>ANKRD30B</i>	0	0.00%	1	4.76%	0.214
<i>C15orf55</i>	0	0.00%	1	4.76%	0.214
<i>CDC73</i>	0	0.00%	1	4.76%	0.214
<i>CIC</i>	0	0.00%	1	4.76%	0.214
<i>CSF1R</i>	0	0.00%	1	4.76%	0.214
<i>DDR1</i>	0	0.00%	1	4.76%	0.214
<i>DDX3X</i>	0	0.00%	1	4.76%	0.214
<i>DPYD</i>	0	0.00%	1	4.76%	0.214
<i>EIF1AX</i>	0	0.00%	1	4.76%	0.214
<i>EPHA5</i>	0	0.00%	1	4.76%	0.214
<i>EPHA7</i>	0	0.00%	1	4.76%	0.214
<i>EPS15</i>	0	0.00%	1	4.76%	0.214
<i>ERCC5</i>	0	0.00%	1	4.76%	0.214
<i>FANCM</i>	0	0.00%	1	4.76%	0.214
<i>FGFR3</i>	0	0.00%	1	4.76%	0.214
<i>GLI3</i>	0	0.00%	1	4.76%	0.214
<i>HGF</i>	0	0.00%	1	4.76%	0.214
<i>HIST1H1C</i>	0	0.00%	1	4.76%	0.214
<i>HIST1H3C</i>	0	0.00%	1	4.76%	0.214
<i>JAK3</i>	0	0.00%	1	4.76%	0.214
<i>KALRN</i>	0	0.00%	1	4.76%	0.214
<i>KRTAP5-5</i>	0	0.00%	1	4.76%	0.214
<i>MAML3</i>	0	0.00%	1	4.76%	0.214
<i>MITF</i>	0	0.00%	1	4.76%	0.214
<i>MRE11A</i>	0	0.00%	1	4.76%	0.214
<i>MYCL1</i>	0	0.00%	1	4.76%	0.214
<i>MYCN</i>	0	0.00%	1	4.76%	0.214
<i>OMD</i>	0	0.00%	1	4.76%	0.214

<i>PALB2</i>	0	0.00%	1	4.76%	0.214
<i>POLD1</i>	0	0.00%	1	4.76%	0.214
<i>PRDM16</i>	0	0.00%	1	4.76%	0.214
<i>PSG2</i>	0	0.00%	1	4.76%	0.214
<i>ROBO3</i>	0	0.00%	1	4.76%	0.214
<i>RPS6KB1</i>	0	0.00%	1	4.76%	0.214
<i>SF3B1</i>	0	0.00%	1	4.76%	0.214
<i>SOX17</i>	0	0.00%	1	4.76%	0.214
<i>SOX2</i>	0	0.00%	1	4.76%	0.214
<i>SRC</i>	0	0.00%	1	4.76%	0.214
<i>TCF7L2</i>	0	0.00%	1	4.76%	0.214
<i>TRAF5</i>	0	0.00%	1	4.76%	0.214
<i>UMPS</i>	0	0.00%	1	4.76%	0.214
<i>VILL</i>	0	0.00%	1	4.76%	0.214
<i>CDKN2B</i>	8	10.39%	0	0.00%	0.196
<i>PIK3CA</i>	7	9.09%	0	0.00%	0.340
<i>ABL1</i>	5	6.49%	0	0.00%	0.582
<i>BRCA1</i>	4	5.19%	0	0.00%	0.575
<i>CREBBP</i>	4	5.19%	0	0.00%	0.575
<i>CTNNA1</i>	4	5.19%	0	0.00%	0.575
<i>PIK3CG</i>	4	5.19%	0	0.00%	0.575
<i>BRAF</i>	3	3.90%	0	0.00%	1.000
<i>CARD11</i>	3	3.90%	0	0.00%	1.000
<i>FBXW7</i>	3	3.90%	0	0.00%	1.000
<i>GRIN2A</i>	3	3.90%	0	0.00%	1.000
<i>STK11</i>	3	3.90%	0	0.00%	1.000
<i>VEGFA</i>	3	3.90%	0	0.00%	1.000
<i>AR</i>	2	2.60%	0	0.00%	1.000
<i>ARID1B</i>	2	2.60%	0	0.00%	1.000
<i>ASXL1</i>	2	2.60%	0	0.00%	1.000
<i>ATR</i>	2	2.60%	0	0.00%	1.000
<i>AXIN2</i>	2	2.60%	0	0.00%	1.000
<i>BRCA2</i>	2	2.60%	0	0.00%	1.000
<i>CDK6</i>	2	2.60%	0	0.00%	1.000
<i>CDK8</i>	2	2.60%	0	0.00%	1.000
<i>FGF10</i>	2	2.60%	0	0.00%	1.000

<i>FLT1</i>	2	2.60%	0	0.00%	1.000
<i>IKZF1</i>	2	2.60%	0	0.00%	1.000
<i>IKZF2</i>	2	2.60%	0	0.00%	1.000
<i>INPP4B</i>	2	2.60%	0	0.00%	1.000
<i>KDM6A</i>	2	2.60%	0	0.00%	1.000
<i>KEL</i>	2	2.60%	0	0.00%	1.000
<i>MCL1</i>	2	2.60%	0	0.00%	1.000
<i>MDM2</i>	2	2.60%	0	0.00%	1.000
<i>MDM4</i>	2	2.60%	0	0.00%	1.000
<i>MLL2</i>	2	2.60%	0	0.00%	1.000
<i>MSH6</i>	2	2.60%	0	0.00%	1.000
<i>NCOR1</i>	2	2.60%	0	0.00%	1.000
<i>NFE2L2</i>	2	2.60%	0	0.00%	1.000
<i>NFKBIA</i>	2	2.60%	0	0.00%	1.000
<i>NOTCH2</i>	2	2.60%	0	0.00%	1.000
<i>NSD1</i>	2	2.60%	0	0.00%	1.000
<i>NTRK1</i>	2	2.60%	0	0.00%	1.000
<i>PCK1</i>	2	2.60%	0	0.00%	1.000
<i>PDGFRA</i>	2	2.60%	0	0.00%	1.000
<i>POLE</i>	2	2.60%	0	0.00%	1.000
<i>PTCH2</i>	2	2.60%	0	0.00%	1.000
<i>RAF1</i>	2	2.60%	0	0.00%	1.000
<i>ETD2</i>	2	2.60%	0	0.00%	1.000
<i>SMO</i>	2	2.60%	0	0.00%	1.000
<i>STAG2</i>	2	2.60%	0	0.00%	1.000
<i>TP73</i>	2	2.60%	0	0.00%	1.000
<i>ZFHX3</i>	2	2.60%	0	0.00%	1.000
<i>ABCA13</i>	1	1.30%	0	0.00%	1.000
<i>ANKRD30A</i>	1	1.30%	0	0.00%	1.000
<i>ATRX</i>	1	1.30%	0	0.00%	1.000
<i>BAP1</i>	1	1.30%	0	0.00%	1.000
<i>BCL11B</i>	1	1.30%	0	0.00%	1.000
<i>BIRC2</i>	1	1.30%	0	0.00%	1.000
<i>BIRC3</i>	1	1.30%	0	0.00%	1.000
<i>BNC2</i>	1	1.30%	0	0.00%	1.000
<i>BRIP1</i>	1	1.30%	0	0.00%	1.000

<i>BTK</i>	1	1.30%	0	0.00%	1.000
<i>BUB1</i>	1	1.30%	0	0.00%	1.000
<i>CBL</i>	1	1.30%	0	0.00%	1.000
<i>CCND2</i>	1	1.30%	0	0.00%	1.000
<i>CCND3</i>	1	1.30%	0	0.00%	1.000
<i>CCNE1</i>	1	1.30%	0	0.00%	1.000
<i>CDH1</i>	1	1.30%	0	0.00%	1.000
<i>CDK13</i>	1	1.30%	0	0.00%	1.000
<i>CHD6</i>	1	1.30%	0	0.00%	1.000
<i>CNTNAP1</i>	1	1.30%	0	0.00%	1.000
<i>CSNK1G3</i>	1	1.30%	0	0.00%	1.000
<i>CTNNA2</i>	1	1.30%	0	0.00%	1.000
<i>CYP3A4</i>	1	1.30%	0	0.00%	1.000
<i>DLC1</i>	1	1.30%	0	0.00%	1.000
<i>DOT1L</i>	1	1.30%	0	0.00%	1.000
<i>EGFL7</i>	1	1.30%	0	0.00%	1.000
<i>ELF3</i>	1	1.30%	0	0.00%	1.000
<i>EP300</i>	1	1.30%	0	0.00%	1.000
<i>EPAS1</i>	1	1.30%	0	0.00%	1.000
<i>EPCAM</i>	1	1.30%	0	0.00%	1.000
<i>EPHA2</i>	1	1.30%	0	0.00%	1.000
<i>EPHB1</i>	1	1.30%	0	0.00%	1.000
<i>ERG</i>	1	1.30%	0	0.00%	1.000
<i>EXT1</i>	1	1.30%	0	0.00%	1.000
<i>EXT2</i>	1	1.30%	0	0.00%	1.000
<i>EZH2</i>	1	1.30%	0	0.00%	1.000
<i>FANCA</i>	1	1.30%	0	0.00%	1.000
<i>FANCD2</i>	1	1.30%	0	0.00%	1.000
<i>FANCF</i>	1	1.30%	0	0.00%	1.000
<i>FANCL</i>	1	1.30%	0	0.00%	1.000
<i>FAS</i>	1	1.30%	0	0.00%	1.000
<i>FCGR1A</i>	1	1.30%	0	0.00%	1.000
<i>FCGR2A</i>	1	1.30%	0	0.00%	1.000
<i>FH</i>	1	1.30%	0	0.00%	1.000
<i>FLCN</i>	1	1.30%	0	0.00%	1.000
<i>FLT3</i>	1	1.30%	0	0.00%	1.000

<i>FOXA2</i>	1	1.30%	0	0.00%	1.000
<i>FRMPD4</i>	1	1.30%	0	0.00%	1.000
<i>GAB2</i>	1	1.30%	0	0.00%	1.000
<i>GATA1</i>	1	1.30%	0	0.00%	1.000
<i>HCN1</i>	1	1.30%	0	0.00%	1.000
<i>HIST1H2BJ</i>	1	1.30%	0	0.00%	1.000
<i>HNF1A</i>	1	1.30%	0	0.00%	1.000
<i>HOXA3</i>	1	1.30%	0	0.00%	1.000
<i>IDH1</i>	1	1.30%	0	0.00%	1.000
<i>IFNG</i>	1	1.30%	0	0.00%	1.000
<i>IGF1R</i>	1	1.30%	0	0.00%	1.000
<i>IL6</i>	1	1.30%	0	0.00%	1.000
<i>ITGB3</i>	1	1.30%	0	0.00%	1.000
<i>JAK1</i>	1	1.30%	0	0.00%	1.000
<i>JAK2</i>	1	1.30%	0	0.00%	1.000
<i>KIT</i>	1	1.30%	0	0.00%	1.000
<i>LCP1</i>	1	1.30%	0	0.00%	1.000
<i>LRRK2</i>	1	1.30%	0	0.00%	1.000
<i>MAX</i>	1	1.30%	0	0.00%	1.000
<i>MEN1</i>	1	1.30%	0	0.00%	1.000
<i>MLL</i>	1	1.30%	0	0.00%	1.000
<i>MUTYH</i>	1	1.30%	0	0.00%	1.000
<i>NF2</i>	1	1.30%	0	0.00%	1.000
<i>NOTCH1</i>	1	1.30%	0	0.00%	1.000
<i>NOTCH4</i>	1	1.30%	0	0.00%	1.000
<i>NRAS</i>	1	1.30%	0	0.00%	1.000
<i>NRXN1</i>	1	1.30%	0	0.00%	1.000
<i>OR4A15</i>	1	1.30%	0	0.00%	1.000
<i>PAX3</i>	1	1.30%	0	0.00%	1.000
<i>PAX5</i>	1	1.30%	0	0.00%	1.000
<i>PIK3R2</i>	1	1.30%	0	0.00%	1.000
<i>PKD1L2</i>	1	1.30%	0	0.00%	1.000
<i>POT1</i>	1	1.30%	0	0.00%	1.000
<i>PPP1R17</i>	1	1.30%	0	0.00%	1.000
<i>PRKARIA</i>	1	1.30%	0	0.00%	1.000
<i>RAC1</i>	1	1.30%	0	0.00%	1.000

<i>RAD21</i>	1	1.30%	0	0.00%	1.000
<i>RAD51B</i>	1	1.30%	0	0.00%	1.000
<i>RAD51D</i>	1	1.30%	0	0.00%	1.000
<i>RICTOR</i>	1	1.30%	0	0.00%	1.000
<i>RINT1</i>	1	1.30%	0	0.00%	1.000
<i>RNF43</i>	1	1.30%	0	0.00%	1.000
<i>ROCK1</i>	1	1.30%	0	0.00%	1.000
<i>RPTOR</i>	1	1.30%	0	0.00%	1.000
<i>SDHB</i>	1	1.30%	0	0.00%	1.000
<i>SDHC</i>	1	1.30%	0	0.00%	1.000
<i>SF3A1</i>	1	1.30%	0	0.00%	1.000
<i>SI</i>	1	1.30%	0	0.00%	1.000
<i>SLIT1</i>	1	1.30%	0	0.00%	1.000
<i>SLIT2</i>	1	1.30%	0	0.00%	1.000
<i>SMARCD1</i>	1	1.30%	0	0.00%	1.000
<i>SNX29</i>	1	1.30%	0	0.00%	1.000
<i>SOD2</i>	1	1.30%	0	0.00%	1.000
<i>SOX10</i>	1	1.30%	0	0.00%	1.000
<i>SUFU</i>	1	1.30%	0	0.00%	1.000
<i>SYK</i>	1	1.30%	0	0.00%	1.000
<i>TBL1XR1</i>	1	1.30%	0	0.00%	1.000
<i>TERC</i>	1	1.30%	0	0.00%	1.000
<i>TET2</i>	1	1.30%	0	0.00%	1.000
<i>TRIM58</i>	1	1.30%	0	0.00%	1.000
<i>TSC2</i>	1	1.30%	0	0.00%	1.000
<i>USP8</i>	1	1.30%	0	0.00%	1.000
<i>WRN</i>	1	1.30%	0	0.00%	1.000
<i>ZIC3</i>	1	1.30%	0	0.00%	1.000
<i>ZMAT3</i>	1	1.30%	0	0.00%	1.000
<i>ZNF573-BRD</i>	1	1.30%	0	0.00%	1.000

Bold indicates statistical significance, $p < 0.05$.