

**Supplementary Table 1. KRAS, LKB1 and TP53 genes mutations status of TCGA patient samples analyzed**

genotype	Patient ID	KRAS	LKB1	TP53
KL	TCGA-86-7713-01A	Missense Mutation (putative driver)	Missense Mutation (putative passenger)	
KL	TCGA-78-7167-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-44-7671-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-44-6776-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-64-5774-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-73-7498-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-78-7161-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-91-6849-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-55-6983-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-50-5932-01A	Missense Mutation (putative driver)	Missense Mutation (putative driver)	
KL	TCGA-50-7109-01A	Missense Mutation (putative driver)	Missense Mutation (putative driver)	
KL	TCGA-53-7813-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-35-3615-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-05-4417-01A	Missense Mutation (putative driver)	Missense Mutation (putative passenger)	
KL	TCGA-78-7160-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-78-7148-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-55-6970-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KL	TCGA-78-7166-01A	Missense Mutation (putative driver)	Missense Mutation (putative driver)	
KL	TCGA-80-5608-01A	Missense Mutation (putative driver)	Truncating mutation (putative driver)	
KP	TCGA-64-5778-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-50-5941-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-64-1677-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-49-4505-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-69-7980-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-55-7911-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-97-7554-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-99-7458-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-50-5933-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-44-6777-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-55-7283-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-78-7540-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-05-4430-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-95-7567-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-55-7576-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-95-7039-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-55-7726-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-55-7907-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-64-5775-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-97-7938-01A	Missense Mutation (putative driver)		Truncating mutation (putative driver)
KP	TCGA-78-7145-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)
KP	TCGA-05-4405-01A	Missense Mutation (putative driver)		Missense Mutation (putative driver)

**Supplementary Table 2. Primer sequences for realtime PCR**

mTAP1-F1	GACTCCTTGCTCTCCACTCAGT
mTAP1-R1	AACGCTGTCACCGTTCCAGGAT
hTAP1-F1	GCAGTCAACTCCTGGACCACTA
hTAP1-R1	CAAGGTTCCCACTGCTTACAGC
mTapasin-F1	GAGATGCTGAAGTTGGAGCTGTC
mTapasin-R1	GGTCTCTGATGTCACCTGGAAC
hTapasin-F1	GAGCCTGTTCTCATCACCATGG
hTapasin-R1	GTAGGCAAAGCTCAAGTCCAGC
mB2M-F1	ACAGTTCACCCGCCTCACATT
mB2m-R1	TAGAAAGACCAGTCCTTGCTGAAG
hB2M-F1	CCACTGAAAAAGATGAGTATGCCT
hB2m-R1	CCAATCCAAATGCGGCATCTTCA
mPSMB9-F1	TACCGTGAGGACTTGTTAGCGC
mPSMB9-R1	GGCTGTCGAATTAGCATCCCTC
hPSMB9-F1	CGAGAGGACTTGTCTGCACATC
hPSMB9-R1	CACCAATGGCAAAGGCTGTCTG
mPSMB8-F1	CCTTACCTGCTTGGCACCATGT
mPSMB8-R1	TTGGATGCTGCAGACACGGAGA
hPSMB8-F1	CCTTACCTGCTTGGCACCATGT
hPSMB8-R1	TTGGAGGCTGCCGACACTGAAA
mPA28-F1	TCACTACCTGGTTGCAGCTACAG
mPA28-R1	GGTGTGAAGGTTGGTCATCAGC
hPA28-F1	TGATGACCAGCCTCCACACCAA
hPA28-R1	TACTCTGCCTCATCCAGCTCGT
mPSMB5-F1	CTGTGGCTGGGATAAGAGAGGC
mPSMB5-R1	CAGGTCATAGGAGTAGCCTCGA
hPSMB5-F1	GTGTCCCAGAAGAGCCAGGAAT
hPSMB5-R1	TCTTCACCGTCTGGGAGGCAAT
mPSMB6-F1	GGCATGACCAAGGACGAATGTC
mPSMB6-R1	TTGGTCTCCCAAAGCACCTGC
hPSMB6-F1	CGTTCACCTCCAGACTGGGAAAG
hPSMB6-R1	CGGTCTGTAATAGGTGTCAGCT
hHLA-A-F1	AGATACACCTGCCATGTGCAGC
hHLA-A-R1	GATCACAGCTCCAAGGAGAACC
hHLA-B-F1	CTGCTGTGATGTGTAGGAGGAAG
hHLA-B-R1	GCTGTGAGAGACACATCAGAGC
hHLA-C-F1	GGAGACACAGAAGTACAAGCGC
hHLA-C-R1	ACATCCTCTGGAGGGTGTGAGA
mH2-D-F1	TGAGGAACCTGCTCGGCTACTA
mH2-D-R1	GGTCTTCGTTCAAGGCGATGTA
mH2-K-F1	GGCAATGAGCAGAGTTTCCGAG
mH2-K-R1	CCACTTCACAGCCAGAGATCAC