

Supplemental Table 2. Mutation data in each cancer sample

Case	Sample	Gene	Mutation	Position	Ref.	Tumor Var.
1	Gingival ca.	TP53	p.Met40fs	chr17:7579565	TCCA	TCCA/TCC
	Lung tumor	TP53	p.Met40fs	chr17:7579565	TCCA	TCCA/TCC
2	Pharyngeal ca.	TP53	p.Pro152fs	chr17:7578474	CGG	CGG/C
	Pharyngeal ca.	TP53	p.Glu343fs	chr17:7574000	CT	CT/C
	Lung tumor	TP53	p.Gly334Val	chr17:7574026	C	C/A
	Lung tumor	ATM	p.Ser1857Pro	chr11:108175474	T	T/C
	Lung tumor	KMT2D	p.Gly3095fs	chr12:49431854	GC	GC/G
	Lung tumor	FGFR3	p.Ser249Cys	chr4:1803568	C	C/G
	Lung tumor	TP53	p.His193Arg	chr17:7578256	TCCACTCGGA TAAGATGCTG AGGAGGGG	TCCACTCGGA TAAGATGCTG AGGAGGGG/T CCTACTCGGAT AAGACGCTGA GGAGGGG
3	Choriocarcinoma	AKT2	p.Met404Ile	chr19:40741221	C	C/T
	Choriocarcinoma	EP300	p.Met2331Thr	chr22:41574707	T	T/C
	Choriocarcinoma	MGA	p.Ala2261Thr	chr15:42042586	G	G/A
	Lung tumor	AKT2	p.Met404Ile	chr19:40741221	C	C/T
4	Pharyngeal ca.	TP53	p.Cys238Arg	chr17:7577569	A	A/G
	Esophageal ca.	TP53	p.Glu258Asp	chr17:7577507	T	T/G
	Esophageal ca.	EPHA7	p.Ala547Val	chr6:93974414	G	G/A
	Lung tumor	KEAP1	p.Glu493Lys	chr19:10600378	C	C/T
	Lung tumor	TP53	p.Gly244Asp	chr17:7577550	C	C/T
5	Esophageal ca.	TP53	p.Ile254del	chr17:7577518	TGATGGTGAG	TGATGGTGAG /TGGTGAG
	Esophageal ca.	TP53	splicing	chr17:7578368	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ATCATCGCTA TCTGAGCAGC GCTCATGGTG GGGGCAGCG CCTCACA
	Esophageal ca.	NF1	p.Asp2525Ala	chr17:29679391	A	A/C
	Lung tumor	SETD2	p.Ala2350Thr	chr3:47088027	C	C/T
	Lung tumor	NFE2L2	p.Glu82Asp	chr2:178098799	T	T/G
	Lung tumor	NFE2L2	p.Glu79Asp	chr2:178098808	C	C/G

						CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ACCATCGCTA TCTGAGCAGG GCTCATGGTG GGGGCAGCG CCTCACA
	Lung tumor	TP53	p.Arg181Pro	chr17:7578368		
	Lung tumor	NF1	p.Asp2525Ala	chr17:29679391	A	A/C
6	Gastric ca.	TP53	p.Tyr327Ter	chr17:7576865	A	A/T
	Gastric ca.	FGFR2	p.Arg6Pro	chr10:123353315	C	C/G
	Gastric ca.	NF1	p.Leu1893Ile	chr17:29657381	C	C/A
	Gastric ca.	KMT2A	p.Pro2357Arg	chr11:118373677	C	C/G
	Gastric ca.	KMT2D	p.Cys5133fs	chr12:49420349	GAC	GAC/G
	Gastric ca.	TSC2	p.Glu517fs	chr16:2114377	AG	AG/A
	Gastric ca.	NOTCH1	p.Asp1185Asn	chr9:139401847	C	C/T
	Lung tumor	TP53	p.Tyr220Cys	chr17:7578190	T	T/C
	Lung tumor	NF1	p.Asp2525Ala	chr17:29679391	A	A/C
	Lung tumor	TSC2	p.Pro903fs	chr16:2126134	T	T/TC
						GGAGATTCTC TTCCTCTGTG C/GGAGATTC TCTTCCTTTGT GC
7	Gastric ca.	TP53	p.Glu285Lys	chr17:7577070	GGAGATTCTC TTCCTCTGTG C	
	Lung tumor	ERBB2	p.Glu770_Ala77 1insAlaTyrValMe t	chr17:37880981	A	A/AGCATACG TGATG
	Lung tumor	TP53	splicing	chr17:7574034	C	C/G
	Lung tumor	TP53	p.Tyr220Cys	chr17:7578190	T	T/C
	Lung tumor	TP53	p.Arg213Ter	chr17:7578212	GAA	GAA/AAA
8	Gastric ca.	TP53	p.Tyr220Cys	chr17:7578190	T	T/C
	Gastric ca.	ATM	p.Glu2660Ala	chr11:108204664	A	A/C
	Gastric ca.	PTEN	p.Arg47Gly	chr10:89653841	A	A/G
	Lung tumor	RB1	splicing	chr13:48955580	G	G/A
	Lung tumor	TP53	p.Arg158Pro	chr17:7578452	TGGCGCG	TGGCGCG/TG GCGGG
	Lung tumor	ARID2	p.Pro1093Arg	chr12:46245184	C	C/G
	Lung tumor	KMT2D	p.Gly3633Asp	chr12:49427590	C	C/T
	Lung tumor	CREBBP	p.Glu1040_Gln1 041delinsAspTer	chr16:3817850	GC	GC/AA
9	Lung ca.	KRAS	p.Gly12Val	chr12:25398284	C	C/A
	Lung ca.	ATM	p.Ile2629fs	chr11:108203577	CTTATA	CTTATA/C
	Lung ca.	EPHA7	p.Thr66Ile	chr6:94120854	G	G/A
	Lung ca.	SETD2	p.Ser557Phe	chr3:47164456	G	G/A
	Lung ca.	KMT2A	p.Pro553Arg	chr11:118343532	C	C/G
	Lung ca.	FGFR2	p.Lys193Thr	chr10:123310850	T	T/G

	Lung ca.	KMT2A	p.Gly932Arg	chr11:118344668	G	G/A
	Lung ca.	ERBB2	p.Asp421Val	chr17:37871738	A	A/T
	Lung ca.	MGA	p.Phe665Cys	chr15:41989202	T	T/G
	Lung ca.	EP300	p.Met126Arg	chr22:41513473	T	T/G
	Lung ca.	KMT2A	p.Ser2614Phe	chr11:118374448	C	C/T
	Lung ca.	ARID1A	p.Pro554Thr	chr1:27057952	C	C/A
	Pancreatic ca.	NOTCH1	p.His1840Arg	chr9:139396319	T	T/C
	Pancreatic ca.	KMT2D	p.Asp632Glu	chr12:49445570	G	G/C
	RU_Lung tumor	NOTCH1	p.His1840Arg	chr9:139396319	T	T/C
	RU_Lung tumor	KMT2D	p.Asp632Glu	chr12:49445570	G	G/C
	RU_Lung tumor	FGFR3	p.Ala634Thr	chr4:1807841	G	G/A
	RU_Lung tumor	SMARCA4	p.Ser1167Leu	chr19:11141523	C	C/T
	RU_Lung tumor	ARID1B	p.Asn111His	chr6:157099394	A	A/C
	RU_Lung tumor	ARID1B	p.Asn111Lys	chr6:157099396	C	C/G
	RM_Lung tumor	NOTCH1	p.His1840Arg	chr9:139396319	T	T/C
	RM_Lung tumor	KMT2D	p.Asp632Glu	chr12:49445570	G	G/C
	RM_Lung tumor	FGFR3	p.Ala634Thr	chr4:1807841	G	G/A
10	Colorectal ca.	TP53	p.Arg342Ter	chr17:7574002	CG	CG/CA
	Colorectal ca.	SMAD4	p.Leu364Trp	chr18:48591928	T	T/G
	Colorectal ca.	EP300	p.Ser1193Thr	chr22:41554492	G	G/C
	Colorectal ca.	SMARCA4	p.Gln1236Glu	chr19:11144125	C	C/G
	L_Lung tumor	TP53	p.Arg342Ter	chr17:7574002	CG	CG/CA
	L_Lung tumor	SMAD4	p.Phe329Ile	chr18:48591822	T	T/A
	L_Lung tumor	SMAD4	p.Phe329_Glu330delinsLeuLys	chr18:48591824	TG	TG/AA
11	Colorectal ca.	TP53	p.Arg342Ter	chr17:7574002	CG	CG/CA
	Colorectal ca.	SMAD4	p.Leu364Trp	chr18:48591928	T	T/G
	Colorectal ca.	EP300	p.Ser1193Thr	chr22:41554492	G	G/C
	Colorectal ca.	SMARCA4	p.Gln1236Glu	chr19:11144125	C	C/G
	R_Lung tumor	TP53	p.Arg342Ter	chr17:7574002	CG	CG/CA
	R_Lung tumor	KMT2D	p.Arg1614Trp	chr12:49438650	G	G/A
12	Colorectal ca.	TP53	p.Arg273His	chr17:7577120	CG	CG/TG
	Colorectal ca.	ERBB2	p.Val697Met	chr17:37879794	G	G/A
	Colorectal ca.	MAP2K1	p.Pro124Leu	chr15:66729163	C	C/T
	Colorectal ca.	KRAS	p.Gly12Ser	chr12:25398280	GCCACC	GCCACC/GCCACT
	Lung tumor	TP53	p.Arg273His	chr17:7577120	CG	CG/TG
	Lung tumor	ERBB2	p.Val697Met	chr17:37879794	G	G/A
	Lung tumor	MAP2K1	p.Pro124Leu	chr15:66729163	C	C/T

	Lung tumor	KRAS	p.Gly12Ser	chr12:25398280	GCCACC	GCCACC/GCC ACT
13	Colorectal ca.	TP53	p.Arg273Cys	chr17:7577120	CG	CG/CA
	Colorectal ca.	MAP2K1	p.Glu102_Ile103 del	chr15:66729093	CTGGAGA	CTGGAGA/C
	Colorectal ca.	EP300	p.Gly1269Arg	chr22:41560133	G	G/A
	R_Lung tumor	TP53	p.Arg273Cys	chr17:7577120	CG	CG/CA
	R_Lung tumor	MAP2K1	p.Glu102_Ile103 del	chr15:66729093	CTGGAGA	CTGGAGA/C
	R_Lung tumor	SLIT2	p.Pro29Leu	chr4:20255524	C	C/T
14	Colorectal ca.	TP53	p.Arg273Cys	chr17:7577120	CG	CG/CA
	Colorectal ca.	MAP2K1	p.Glu102_Ile103 del	chr15:66729093	CTGGAGA	CTGGAGA/C
	Colorectal ca.	EP300	p.Gly1269Arg	chr22:41560133	G	G/A
	L_Lung tumor	TP53	p.Arg273Cys	chr17:7577120	CG	CG/CA
	L_Lung tumor	MAP2K1	p.Glu102_Ile103 del	chr15:66729093	CTGGAGA	CTGGAGA/C
15	Colorectal ca.	TP53	p.Arg213Ter	chr17:7578211	CG	CG/CA
	Colorectal ca.	FGFR1	p.Ser140Leu	chr8:38287238	G	G/A
	Colorectal ca.	NRAS	p.Gln61Arg	chr1:115256528	TT	TT/TC
	Lung tumor	TP53	p.Arg213Ter	chr17:7578211	CG	CG/CA
	Lung tumor	FGFR1	p.Ser140Leu	chr8:38287238	G	G/A
	Lung tumor	NRAS	p.Gln61Arg	chr1:115256528	TT	TT/TC
16	Colorectal ca.	KRAS	p.Gly12Ser	chr12:25398280	GCCACC	GCCACC/GCC ACT
	Colorectal ca.	TP53	p.Tyr236Cys	chr17:7577572	TGTA	TGTA/TGCA
	Colorectal ca.	PIK3CA	p.Glu545Lys	chr3:178936091	G	G/A
	R_Lung tumor	KRAS	p.Gly12Ser	chr12:25398280	GCCACC	GCCACC/GCC ACT
	R_Lung tumor	TP53	p.Tyr236Cys	chr17:7577572	TGTA	TGTA/TGCA
	R_Lung tumor	PIK3CA	p.Glu545Lys	chr3:178936091	G	G/A
17	Colorectal ca.	KRAS	p.Gly12Ser	chr12:25398280	GCCACC	GCCACC/GCC ACT
	Colorectal ca.	TP53	p.Tyr236Cys	chr17:7577572	TGTA	TGTA/TGCA
	Colorectal ca.	PIK3CA	p.Glu545Lys	chr3:178936091	G	G/A
	L_Lung tumor	KRAS	p.Gly12Ser	chr12:25398280	GCCACC	GCCACC/GCC ACT
	L_Lung tumor	TP53	p.Tyr236Cys	chr17:7577572	TGTA	TGTA/TGCA
	L_Lung tumor	PIK3CA	p.Glu545Lys	chr3:178936091	G	G/A
18	Colorectal ca.	TP53	p.Leu194Arg	chr17:7578256	TCCACTCGGA TAAGATGCTG AGGAGGGG	TCCACTCGGA TAAGATGCTG AGGAGGGG/T CCACTCGGAT ACGATGCTGA GGAGGGG

	Lung tumor	TP53	p.Leu194Arg	chr17:7578256	TCCACTCGGA TAAGATGCTG AGGAGGGG	TCCACTCGGA TAAGATGCTG AGGAGGGG/T CCTACTCGGAT ACGATGCTGA GGAGGGG
	Lung tumor	NOTCH2	Splicesite	chr1:120480633	TC	TC/AA
	Lung tumor	NF1	p.Leu2325Arg	chr17:29667575	T	T/G
19	Colorectal ca.	TP53	p.Cys176Phe	chr17:7578368	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ACCATCGCTA TCTGAGCAGC GCTCATGGTG GGGGAAGCG CCTCACA
	Colorectal ca.	KRAS	p.Gly12Val	chr12:25398280	GCCAC	GCCAC/GCCA A
	R_Lung tumor	TP53	p.Cys176Phe	chr17:7578368	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ACCATCGCTA TCTGAGCAGC GCTCATGGTG GGGGAAGCG CCTCACA
	R_Lung tumor	KRAS	p.Gly12Val	chr12:25398280	GCCAC	GCCAC/GCCA A
	R_Lung tumor	PIK3CA	p.Asn183Lys	chr3:178917674	T	T/A
20	Colorectal ca.	TP53	p.Cys176Phe	chr17:7578368	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA	CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ACCATCGCTA TCTGAGCAGC GCTCATGGTG GGGGAAGCG CCTCACA
	Colorectal ca.	KRAS	p.Gly12Val	chr12:25398280	GCCAC	GCCAC/GCCA A

						CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ACCATCGCTA TCTGAGCAGC GCTCATGGTG GGGGAAGCG CCTCACA
	L_Lung tumor	TP53	p.Cys176Phe	chr17:7578368		
	L_Lung tumor	KRAS	p.Gly12Val	chr12:25398280	GCCAC	GCCAC/GCCA A
	L_Lung tumor	PIK3CA	p.Glu545Lys	chr3:178936091	G	G/A
21	Colorectal ca.	TP53	p.Arg213Ter	chr17:7578211	CG	CG/CA
	Colorectal ca.	SMAD4	p.Ala406Val	chr18:48593466	C	C/T
	Colorectal ca.	SMARCA4	p.Arg13Pro	chr19:11094865	G	G/C
	Colorectal ca.	BRAF	p.Val600Glu	chr7:140453133	TTCA	TTCA/TTCT
	Colorectal ca.	MGA	p.Arg2436Cys	chr15:42052635	C	C/T
	Colorectal ca.	FOXP2 MI R3666	p.Lys422Asn	chr7:114293989	A	A/T
	Colorectal ca.	ARID1A	p.Gln1401Ter	chr1:27100919	C	C/T
	Colorectal ca.	ARID2	p.Asp211Tyr	chr12:46211665	G	G/T
	Colorectal ca.	PIK3CA	p.Glu545Lys	chr3:178936091	G	G/A
	Colorectal ca.	COBL	p.Arg334Gln	chr7:51152958	C	C/T
	Lung tumor	TP53	p.Arg213Ter	chr17:7578211	CG	CG/CA
	Lung tumor	SMAD4	p.Ala406Val	chr18:48593466	C	C/T
	Lung tumor	SMARCA4	p.Arg13Pro	chr19:11094865	G	G/C
	Lung tumor	BRAF	p.Val600Glu	chr7:140453133	TTCA	TTCA/TTCT
	Lung tumor	MGA	p.Arg2436Cys	chr15:42052635	C	C/T
	Lung tumor	FOXP2 MI R3666	p.Lys422Asn	chr7:114293989	A	A/T
	Lung tumor	ARID1A	p.Gln1401Ter	chr1:27100919	C	C/T
	Lung tumor	ARID2	p.Asp211Tyr	chr12:46211665	G	G/T
	Lung tumor	PIK3CA	p.Glu545Lys	chr3:178936091	G	G/A
22	Rectal ca.	COBL	p.Met1114Lys	chr7:51095452	A	A/T
	Rectal ca.	TP53	p.Arg342Ter	chr17:7574002	CG	CG/CA
	Rectal ca.	ERBB3	p.Gly216Ala	chr12:56481612	G	G/C
	Lung tumor	COBL	p.Met1114Lys	chr7:51095452	A	A/T
	Lung tumor	TP53	p.Arg342Ter	chr17:7574002	CG	CG/CA
	Lung tumor	ERBB3	p.Gly216Ala	chr12:56481612	G	G/C
23	Cervical ca.	PIK3CA	p.Cys378Tyr	chr3:178922364	G	G/A

						CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ACCATCGCTA TCTGAGCAGC GCTCATGGTG GGGGCAGTG CCTCACA
	Cervical ca.	TP53	p.Arg175His	chr17:7578368		
	Cervical ca.	U2AF1 U2 AF1L5	p.Ser34Phe	chr21:44524456	G	G/A
	Lung tumor	PIK3CA	p.Cys378Tyr	chr3:178922364	G	G/A
						CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA/C ACCATCGCTA TCTGAGCAGC GCTCATGGTG GGGGCAGTG CCTCACA
	Lung tumor	TP53	p.Arg175His	chr17:7578368		
						CACCATCGCT ATCTGAGCAG CGCTCATGGT GGGGGCAGC GCCTCACA
	Lung tumor	U2AF1 U2 AF1L5	p.Ser34Phe	chr21:44524456	G	G/A
24	Urothelial ca.	TP53	p.Arg248Gln	chr17:7577528	GATGGGCCTC CGGTTC	GATGGGCCTC CGGTTC/GAT GGGCCTCTG GTTC
	Urothelial ca.	MGA	p.Ile1429Met	chr15:42028749	C	C/G
	Urothelial ca.	ARID1B	p.Ala240Glu	chr6:157099782	C	C/A
	Urothelial ca.	ARID2	p.Ser863Leu	chr12:46244494	C	C/T
						GATGGGCCTC CGGTTC/GAT GGGCCTCTG GTTC
	Lung tumor	TP53	p.Arg248Gln	chr17:7577528	GATGGGCCTC CGGTTC	GATGGGCCTC CGGTTC/GAT GGGCCTCTG GTTC
	Lung tumor	MGA	p.Ile1429Met	chr15:42028749	C	C/G
	Lung tumor	ARID1B	p.Ala240Glu	chr6:157099782	C	C/A
	Lung tumor	ARID2	p.Ser863Leu	chr12:46244494	C	C/T
	Lung tumor	ARID2	p.Ser907Leu	chr12:46244626	C	C/T
	Lung tumor	ARID2	p.Gln760His	chr12:46244186	G	G/C
	Lung tumor	NOTCH2	p.Pro1309Ala	chr1:120469202	G	G/C