Table S1. Gene list for the 381 cancer gene panel.

Gene list									
ABL1	ABL2	ACVR1B	ACVR2A	ADAM29	ADGRA2	AKT1	AKT2	AKT3	ALK
AMER1	APC	AR	ARAF	ARFRP1	ARID1A	ARID1B	ARID2	ASXL1	ATM
ATR	ATRX	AURKA	AURKB	AXIN1	AXL	BAP1	BARD1	BCL2	BCL2L1
BIM	BCL2L2	BCL6	BCOR	BCORL1	BCR	BIRC5	BLK	BLM	BMX
BRAF	BRCA1	BRCA2	BRD4	BRIP1	BTG1	BTK	C11orf30	CARD11	CBFB
CBL	CCND1	CCND2	CCND3	CCNE1	CD274	CD79A	CD79B	CDC73	CDH1
CDK12	CDK4	CDK6	CDK8	CDKN1A	CDKN1B	CDKN2A	CDKN2B	CDKN2C	CEBPA
CHD2	CHD4	CHEK1	CHEK2	CIC	CRBN	CREBBP	CRKL	CRLF2	CSF1R
CSK	CSNK1A1	CTCF	CTNNA1	CTNNB1	CUL3	CXCR4	CYLD	CYP2C19	CYP2D6
DAXX	DDR1	DDR2	DICER1	DNMT3A	DOT1L	DPYD	EGF	EGFR	EP300
EPHA2	EPHA3	EPHA5	EPHA7	EPHB1	ERBB2	ERBB3	ERBB4	ERCC1	ERG
ERRFI1	ESR1	ETV1	ETV4	ETV5	ETV6	EZH2	FAM135B	FAM46C	FANCA
FANCC	FANCD2	FANCE	FANCF	FANCG	FANCL	FAS	FAT1	FBXW7	FGF10
FGF14	FGF19	FGF23	FGF3	FGF4	FGF6	FGFR1	FGFR2	FGFR3	FGFR4
FGR	FH	FLCN	FLT1	FLT3	FLT4	FOXL2	FOXP1	FRS2	FUBP1
FYN	GABRA6	GATA1	GATA2	GATA3	GATA4	GATA6	GID4	GLI1	GLI2
GLI3	GNA11	GNA13	GNAQ	GNAS	GRIN2A	GRM3	GSK3B	H3F3A	HCK
HGF	HNF1A	HRAS	HSD3B1	HSP90AA1	IDH1	IDH2	IGF1R	IGF2	IKBKE
IKZF1	IL7R	INHBA	INPP4B	IRF2	IRF4	IRS2	ITK	JAK1	JAK2
JAK3	JUN	KAT6A	KDM5A	KDM5C	KDM6A	KDR	KEAP1	KEL	KIT
KLHL6	KMT2A	KMT2C	KMT2D	KRAS	LCK	LIMK1	LMO1	LRP1	LRP1B
LYN	LZTR1	MAGI2	MAP2K1	MAP2K2	MAP2K4	MAP3K1	MAP4K5	MCL1	MDM2
MDM4	MED12	MEF2B	MEN1	MET	MITF	MLH1	MPL	MRE11A	MS4A1
MSH2	MSH6	MST1R	MTOR	MUTYH	MYB	MYC	MYCL	MYCN	MYD88
NEK11	NF1	NF2	NFE2L2	NFKBIA	NKX2-1	NOTCH1	NOTCH2	NOTCH3	NPM1
NRAS	NRG1	NRG3	NSD1	NTRK1	NTRK2	NTRK3	NUP93	PAK3	PALB2
PARK2	PAX5	PBRM1	PDCD1LG2	PDGFRA	PDGFRB	PDK1	PIK3C2B	PIK3CA	PIK3CB
PIK3CD	PIK3CG	PIK3R1	PIK3R2	PKD2	PLA2G1B	PLCG2	PMS2	POLD1	POLE
PPP2R1A	PRDM1	PREX2	PRKAR1A	PRKCI	PRKDC	PRSS8	PTCH1	PTEN	PTK2
PTK6	PTPN11	QKI	RAC1	RAD50	RAD51	RAF1	RANBP2	RARA	RB1
RBM10	RET	RICTOR	RIT1	RNF43	ROCK1	ROCK2	ROS1	RPTOR	RUNX1
RUNX1T1	RXRA	SDHA	SDHB	SDHC	SDHD	SETD2	SF3B1	SIK1	SLIT2
SMAD2	SMAD3	SMAD4	SMARCA2	SMARCA4	SMARCB1	SMO	SNCAIP	SOCS1	SOX10
SOX2	SOX9	SPEN	SPOP	SPTA1	SRC	SRMS	STAG2	STAT3	STAT4
STK11	STK24	SUFU	SYK	TAF1	TBX3	TCF7L2	TEK	TERT	TET2
TGFBR1	TGFBR2	TIE1	TMPRSS2	TNFAIP3	TNFRSF14	TNFSF11	TNK2	TOP1	TOP2A
TP53	TPMT	TSC1	TSC2	TSHR	TYK2	U2AF1	UGT1A1	VEGFA	VHL
WEE1	WEE2	WISP3	WT1	XIAP	XPO1	YES1	ZBTB2	ZNF217	ZNF703
ZNF750									

Table S2. Genes associated with increased TMB.

Gene list									
ABL1	APC	AR	ATR	FANCD2	FAT1	KMT2C	KMT2D	LIMK1	LRP1
LRP1B	MTOR	NOTCH1	POLD1	PREX2	PRKDC	PTCH1	SDHA	SPTA1	TP53