MAYO CLINIC LABORATORIES

Genes Interrogated by MayoComplete Solid Tumor Panel

Refer to MayoComplete Solid Tumor Panel DNA Panel Excluded DNA Regions for information on genomic regions in targeted genes that have insufficient coverage to reliably detect single nucleotide variants (SNV) or deletion-insertion (DELIN) variants.

Note: All exons for all genes are covered by the RNA panel.

A detailed list of interrogated genomic regions can be provided upon request. Contact the Molecular Technologies Laboratory at 800-533-1710.

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
ABL1	✓	AMP			✓	
ABL2	✓	AMP				
ABRAXASI (FAM175A)	✓		HMZ			
ACVR1	✓					
ACVR1B	✓					
AKT1	✓	AMP				
AKT2	✓	AMP				
AKT3	✓	AMP			✓	
ALK	✓	AMP			✓	
ALOX12B	✓					
ANKRD11	✓		HMZ			
ANKRD26	✓					
APC	✓		HMZ	Biallelic inactivation		
AR	✓	AMP			✓	✓
ARAF	✓					
ARFRP1	✓					
ARID1A	✓		HMZ			
ARID1B	✓		HMZ			
ARID2	✓		HMZ			
ARID5B	✓					
ASXL1	✓		HMZ			
ASXL2	✓					
ATM	✓		HMZ	Biallelic inactivation		
ATR	✓		HMZ			
ATRX	✓		HMZ	Biallelic inactivation		
AURKA	✓	AMP				
AURKB	✓					
AXIN1	✓					
AXIN2	✓		HMZ			
AXL	✓	AMP			✓	

MC4091-168rev0624

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
B2M	✓		HMZ	Biallelic inactivation		
BAP1	✓		HMZ	Biallelic inactivation		
BARD1	✓		HMZ			
BBC3	✓					
BCL10	✓					
BCL2	✓	AMP			✓	
BCL2L1	✓					
BCL2L11	✓		HMZ			
BCL2L2	✓					
BCL6	✓					
BCOR	✓		HMZ			
BCORL1	✓		HMZ			
BCR	✓					
BIRC3	✓					
BLM	✓		HMZ			
BMPR1A	✓		HMZ			
BRAF	✓	AMP			✓	
BRCA1	✓		HMZ	Biallelic inactivation	✓	
BRCA2	✓		HMZ	Biallelic inactivation	✓	
BRD4	✓	AMP				
BRIP1	✓		HMZ			
BTG1	✓		HMZ			
BTK	✓					
C11orf30	✓					
CALR	✓					
CARD11	✓					
CASP8	✓					
CBFB	✓					
CBL	✓		HMZ			
CCN6 (WISP3)	✓		HMZ			
CCND1	✓	AMP				
CCND2	✓	AMP				
CCND3	✓	AMP				
CCNE1	✓	AMP				
CD274	✓	AMP	HMZ			
CD276	✓					
CD74	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
CD79A	✓					
CD79B	✓					
CDC73	✓		HMZ			
CDH1	✓		HMZ			
CDK12	✓					
CDK4	✓	AMP			✓	
CDK6	✓	AMP				
CDK8	✓					
CDKN1A	✓		HMZ			
CDKN1B	✓		HMZ			
CDKN2A	✓		HMZ	Biallelic inactivation		
CDKN2B	✓		HMZ	Biallelic inactivation		
CDKN2C	✓		HMZ			
CEBPA	✓		HMZ			
CENPA	✓					
CHD2	✓		HMZ			
CHD4	✓					
CHEK1	✓		HMZ			
CHEK2	✓		HMZ			
CIC	✓		HMZ	Biallelic inactivation		
CREBBP	✓		HMZ			
CRKL	✓	AMP				
CRLF2	✓					
CSF1R	✓	AMP			✓	
CSF3R	✓					
CSNK1A1	✓					
CTCF	✓		HMZ			
CTLA4	✓					
CTNNA1	✓					
CTNNB1	✓	AMP				
CUL3	✓					
CUX1	✓					
CXCR4	✓					
CYLD	✓					
DAXX	✓					
DCUN1D1	✓					
DDR2	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
DDX41	✓					
DHX15	✓					
DICER1	✓		HMZ	Biallelic inactivation		
DIS3	✓					
DNAJB1	✓					
DNMT1	✓					
DNMT3A	✓		HMZ			
DNMT3B	✓					
DOT1L	✓					
E2F3	✓					
EED	✓					
EGFL7	✓					
EGFR	✓	AMP			✓	✓
EIF1AX	✓					
EIF4A2	✓					
EIF4E	✓					
EML4	✓				✓	
EP300	✓		HMZ			
EPCAM	✓		HMZ			
EPHA3	✓					
EPHA5	✓					
EPHA7	✓					
EPHB1	✓					
ERBB2	✓	AMP			✓	
ERBB3	✓	AMP				
ERBB4	✓	AMP				
ERCC1	✓	AMP	HMZ			
ERCC2	✓	AMP	HMZ			
ERCC3	✓					
ERCC4	✓		HMZ			
ERCC5	✓		HMZ			
ERG	✓	AMP			✓	
ERRFI1	✓		HMZ			
ESR1	✓	AMP			✓	
ETS1	✓				✓	
ETV1	✓				✓	
ETV4	✓				✓	

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	SNV/DELIN (n=515)	Amplification (n=96)	Homozygous deletion (n=133)	Biallelic inactivation (n=31)	Fusions (n=55)	Splice variants (n=3)
ETV5	✓				✓	
ETV6	✓		HMZ			
EWSR1	✓				✓	
EZH2	✓	AMP				
FAM123B	✓					
FAM46C	✓					
FANCA	✓		HMZ			
FANCC	✓		HMZ			
FANCD2	✓		HMZ			
FANCE	✓					
FANCF	✓		HMZ			
FANCG	✓					
FANCI	✓		HMZ			
FANCL	✓					
FAS	✓					
FAT1	✓		HMZ			
FBXW7	✓		HMZ			
FGF1	✓	AMP				
FGF10	✓	AMP				
FGF14	✓	AMP				
FGF19	✓	AMP				
FGF2	✓	AMP				
FGF23	✓	AMP				
FGF3	✓	AMP				
FGF4	✓	AMP				
FGF5	✓	AMP				
FGF6	✓	AMP				
FGF7	✓	AMP				
FGF8	✓	AMP				
FGF9	✓	AMP				
FGFR1	✓	AMP			✓	
FGFR2	✓	AMP			✓	
FGFR3	✓	AMP			✓	
FGFR4	✓	AMP			✓	
FH	✓					
FLCN	✓		HMZ	Biallelic inactivation		
FLI1	✓				✓	

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
FLT1	✓	AMP			✓	
FLT3	✓	AMP			✓	
FLT4	✓	AMP				
FOXA1	✓	AMP				
FOXL2	✓		HMZ			
FOXO1	✓					
FOXP1	✓		HMZ			
FRS2	✓					
FUBP1	✓		HMZ	Biallelic inactivation		
FYN	✓					
GABRA6	✓					
GATA1	✓					
GATA2	✓					
GATA3	✓		HMZ			
GATA4	✓		HMZ			
GATA6	✓		HMZ			
GEN1	✓					
GID4	✓					
GLI1	✓	AMP				
GNA11	✓					
GNA13	✓					
GNAQ	✓					
GNAS	✓					
GPR124	✓					
GPS2	✓					
GREM1	✓					
GRIN2A	✓					
GRM3	✓					
GSK3B	✓					
H1-2 (HIST1H1C)	✓					
H2BC5 (HIST1H2BD)	✓					
H3-3A	✓					
H3-3B	✓					
H3-3C	✓					
H3-4 (HIST3H3)	✓					
H3C1 (HIST1H3A)	✓					
H3C10 (HIST1H3H)	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
H3C11 (HIST1H3I)	✓					
H3C12 (HIST1H3J)	✓					
H3C13 (HIST2H3D)	✓					
H3C2 (HIST1H3B)	✓					
H3C3 (HIST1H3C)	✓					
H3C4 (HIST1H3D)	✓					
H3C6 (HIST1H3E)	✓					
H3C7 (HIST1H3F)	✓					
H3G8 (HIST1H3G)	✓					
HGF	✓	AMP				
HNF1A	✓		HMZ			
HNRNPK	✓		HMZ			
HOXB13	✓					
HRAS	✓					
HSD3B1	✓					
HSP90AA1	✓					
ICOSLG	✓					
ID3	✓					
IDH1	✓		HMZ	Biallelic inactivation		
IDH2	✓		HMZ	Biallelic inactivation		
IFNGR1	✓					
IGF1	✓					
IGF1R	✓	AMP				
IGF2	✓					
IKBKE	✓					
IKZF1	✓		HMZ			
IL10	✓					
IL7R	✓					
INHA	✓					
INHBA	✓					
INPP4A	✓					
INPP4B	✓					
INSR	✓					
IRF2	✓					
IRF4	✓					
IRS1	✓					
IRS2	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
JAK1	✓		HMZ			
JAK2	✓	AMP			✓	
JAK3	✓					
JUN	✓	AMP				
KAT6A	✓		HMZ			
KDM5A	✓					
KDM5C	✓		HMZ			
KDM6A	✓		HMZ			
KDR	✓	AMP			✓	
KEAP1	✓		HMZ			
KEL	✓					
KIF5B	✓				✓	
KIT	✓	AMP			✓	
KLF4	✓					
KLHL6	✓					
KMT2A (MLL)	✓	AMP	HMZ		✓	
KMT2B			HMZ			
KMT2C			HMZ			
KMT2D			HMZ			
KRAS	✓	AMP				
LAMP1	✓	AMP				
LATS1	✓					
LATS2	✓					
LMO1	✓					
LRP1B	✓					
LYN	✓					
LZTR1	✓					
MAGI2	✓					
MALT1	✓		HMZ			
MAP2K1	✓					
MAP2K2	✓					
MAP2K4	✓		HMZ			
MAP3K1	✓					
MAP3K13	✓					
MAP3K14	✓					
MAP3K4	✓					
MAPK1	✓	AMP				

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
MAPK3	✓					
MAX	✓					
MCL1	✓	AMP				
MDC1	✓					
MDM2	✓	AMP				
MDM4	✓	AMP				
MED12	✓					
MEF2B	✓					
MEN1	✓		HMZ			
MET	✓	AMP			✓	✓
MGA	✓					
MITF	✓	AMP				
MLH1	✓		HMZ	Biallelic inactivation		
MLLT3	✓				✓	
MPL	✓					
MRE11A	✓					
MSH2	✓		HMZ	Biallelic inactivation	✓	
MSH3	✓		HMZ			
MSH6	✓		HMZ	Biallelic inactivation		
MST1	✓					
MST1R	✓	AMP				
MTOR	✓					
MUTYH	✓		HMZ			
MYB	✓	AMP				
MYC	✓	AMP			✓	
MYCL	✓	AMP				
MYCN	✓	AMP				
MYD88	✓					
MYOD1	✓					
NAB2	✓					
NBN	✓		HMZ			
NCOA3	✓					
NCOR1	✓					
NEGR1	✓					
NF1	✓		HMZ	Biallelic inactivation		
NF2	✓		HMZ	Biallelic inactivation		
NFE2L2	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
NFKBIA	✓					
NKX2-1	✓		HMZ			
NKX3-1	✓					
NOTCH1	✓				✓	
NOTCH2	✓				✓	
NOTCH3	✓				✓	
NOTCH4	✓					
NPM1	✓					
NRAS	✓	AMP				
NRG1	✓	AMP			✓	
NSD1	✓		HMZ			
NTRK1	✓	AMP			✓	
NTRK2	✓	AMP			✓	
NTRK3	✓	AMP			✓	
NUP93	✓					
NUTM1	✓					
PAK1	✓					
PAK3	✓					
PAK7	✓					
PALB2	✓		HMZ			
PARK2 (PRKN)	✓		HMZ			
PARP1	✓					
PAX3	✓		HMZ		✓	
PAX5	✓	AMP	HMZ			
PAX7	✓				✓	
PAX8	✓					
PBRM1	✓					
PDCD1	✓					
PDCD1LG2	✓					
PDGFRA	✓	AMP			✓	
PDGFRB	✓	AMP			✓	
PDK1	✓					
PDPK1	✓					
PGR	✓					
PHF6	✓		HMZ			
PHOX2B	✓					
PIK3C2B	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
PIK3C2G	✓					
PIK3C3	✓					
PIK3CA	✓	AMP			✓	
PIK3CB	✓	AMP				
PIK3CD	✓					
PIK3CG	✓					
PIK3R1	✓	AMP	HMZ			
PIK3R2	✓	AMP				
PIK3R3	✓					
PIM1	✓					
PLCG2	✓					
PLK2	✓					
PMAIP1	✓					
PMS1	✓					
PMS2	✓		HMZ	Biallelic inactivation		
PNRC1	✓					
POLD1	✓					
POLE	✓					
PPARG	✓				✓	
PPM1D	✓					
PPP2R1A	✓					
PPP2R2A	✓					
PPP6C	✓					
PRDM1	✓					
PREX2	✓					
PRKAR1A	✓					
PRKCI	✓					
PRKDC	✓					
PRSS8	✓					
PTCH1	✓		HMZ	Biallelic inactivation		
PTEN	✓		HMZ	Biallelic inactivation		
PTPN11	✓					
PTPRD	✓					
PTPRS	✓					
PTPRT	✓					
QKI	✓					
RAB35	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
RAC1	✓					
RAD21	✓		HMZ			
RAD50	✓		HMZ			
RAD51	✓					
RAD51B	✓					
RAD51C	✓		HMZ			
RAD51D	✓		HMZ			
RAD52	✓					
RAD54L	✓					
RAF1	✓	AMP			✓	
RANBP2	✓					
RARA	✓					
RASA1	✓		HMZ			
RB1	✓		HMZ	Biallelic inactivation		
RBM10	✓					
RECQL4	✓					
REL	✓					
RET	✓	AMP			✓	
RFWD2	✓					
RHEB	✓					
RHOA	✓					
RICTOR	✓	AMP				
RIT1	✓					
RNF43	✓					
ROS1	✓	AMP			✓	
RPS6KA4	✓					
RPS6KB1	✓	AMP			✓	
RPS6KB2	✓					
RPTOR	✓					
RUNX1	✓		HMZ			
RUNX1T1	✓					
RYBP	✓					
SDHA	✓					
SDHAF2	✓					
SDHB	✓		HMZ			
SDHC	✓		HMZ			
SDHD	✓		HMZ			

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
SETBP1	✓					
SETD2	✓		HMZ			
SF3B1	✓					
SH2B3	✓					
SH2D1A	✓		HMZ			
SHQ1	✓					
SLIT2	✓					
SLX4	✓					
SMAD2	✓		HMZ			
SMAD3	✓					
SMAD4	✓		HMZ			
SMARCA4	✓		HMZ	Biallelic inactivation		
SMARCB1	✓		HMZ	Biallelic inactivation		
SMARCD1	✓					
SMC1A	✓		HMZ			
SMC3	✓					
SMO	✓					
SNCAIP	✓					
SOCS1	✓					
SOX10	✓		HMZ			
SOX17	✓					
SOX2	✓	AMP				
SOX9	✓		HMZ			
SPEN	✓					
SPOP	✓					
SPTA1	✓					
SRC	✓					
SRSF2	✓					
STAG1	✓					
STAG2	✓		HMZ			
STAT3	✓					
STAT4	✓					
STAT5A	✓					
STAT5B	✓					
STK11	✓		HMZ			
STK40	✓					
SUFU	✓		HMZ	Biallelic inactivation		

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
SUZ12	✓					
SYK	✓					
TAF1	✓					
TBX3	✓		HMZ			
TCEB1	✓					
TCF3	✓					
TCF7L2	✓		HMZ			
TERC	✓					
TERT	✓	AMP				
TET1	✓					
TET2	✓		HMZ			
TFE3	✓					
TFRC	✓	AMP				
TGFBR1	✓					
TGFBR2	✓		HMZ			
TMEM127	✓					
TMPRSS2	✓				✓	
TNFAIP3	✓					
TNFRSF14	✓					
TOP1	✓		HMZ			
TOP2A	✓	AMP	HMZ			
TP53	✓		HMZ	Biallelic inactivation		
TP63	✓					
TRAF2	✓					
TRAF7	✓					
TSC1	✓		HMZ	Biallelic inactivation		
TSC2	✓		HMZ	Biallelic inactivation		
TSHR	✓					
U2AF1	✓					
VEGFA	✓					
VHL	✓	AMP	HMZ	Biallelic inactivation		
VTCN1	✓					
WT1	✓		HMZ			
XIAP	✓					
XPO1	✓					
XRCC2	✓					
YAP1	✓					

Genes Interrogated by MayoComplete Solid Tumor Panel (continued)

	DNA Panel				RNA Panel	
Gene symbol	**SNV/DELIN (n=515)**	**Amplification (n=96)**	**Homozygous deletion (n=133)**	**Biallelic inactivation (n=31)**	**Fusions (n=55)**	**Splice variants (n=3)**
YES1	✓	AMP				
ZBTB2	✓					
ZBTB7A	✓					
ZFHX3	✓					
ZNF217	✓					
ZNF703	✓					
ZRSR2	✓					