

GENOMIC & IMMUNE PROFILING

OmniSeq INSIGHT® is a comprehensive genomic profiling test that uses next-generation DNA sequencing of the full exonic coding region of 523 genes to detect small variants (single and multinucleotide substitutions, insertions, deletions and indels), and copy number alterations (gains and losses). The test includes HLA Class I genotypes, calculation of microsatellite instability (MSI) and tumor mutational burden (TMB) genomic signatures. RNA is also sequenced to detect fusions (rearrangements) and splice variants, as well as to measure mRNA expression in 64 immune genes and PD-L1 protein expression by immunohistochemistry (IHC).

DNA Sequencing of 523 genes (full coding exonic regions) for the detection of substitutions, indels, MSI and TMB											
ABL1	BLM	CRLF2	ERCC4	FLI1	HIST1H3I	KDR	MRE11A	PAX3	PTCH1	SDHD	TCF7L2
ABL2	BMPRI1A	CSF1R	ERCC5	FLT1	HIST1H3J	KEAP1	MSH2	PAX5	PTEN	SETBP1	TERC
ACVR1	BRAF	CSF3R	ERG	FLT3	HIST2H3A	KEL	MSH3	PAX7	PTPN11	SETD2	TERT
ACVR1B	BRCA1	CSNK1A1	ERRF1	FLT4	HIST2H3C	KIF5B	MSH6	PAX8	PTPRD	SF3B1	TET1
AKT1	BRC2A	CTCF	ESR1	FOXA1	HIST2H3D	KIT	MST1	PBRM1	PTPRS	SH2B3	TET2
AKT2	BRD4	CTLA4	ETS1	FOXO1	HIST3H3	KLF4	MST1R	PDCD1	PTPRT	SH2D1A	TFE3
AKT3	BRIP1	CTNNA1	ETV1	FOXO1	HLA-A	KLHL6	MTOR	PDCD1LG2	QKI	SHQ1	TFRC
ALK	BTG1	CTNNB1	ETV4	FOXO1	HLA-B	KMT2A	MUTYH	PDGFRA	RAB35	SLIT2	TGFBF1
ALOX12B	BTK	CUL3	ETV5	FRS2	HLA-C	KMT2B	MYB	PDGFRB	RAC1	SLX4	TGFBF2
AMER1	C11orf30	CUX1	ETV6	FUBP1	HNF1A	KMT2C	MYC	PDK1	RAD21	SMAD2	TMEM127
ANKRD11	CALR	CXCR4	EWSR1	FYN	HNRNP	KMT2D	MYCL	PDPK1	RAD50	SMAD3	TMPRSS2
ANKRD26	CARD11	CYLD	EZH2	GABRA6	HOBX13	KRAS	MYCN	PGR	RAD51	SMAD4	TNFAIP3
APC	CASP8	DAXX	FAM175A	GATA1	HRAS	LAMP1	MYD88	PHF6	RAD51B	SMARCA4	TNFRSF14
AR	CBFB	DCUN1D1	FAM46C	GATA2	HSD3B1	LATS1	MYO1	PHOX2B	RAD51C	SMARCB1	TOP1
ARAF	CBL	DDR2	FANCA	GATA3	HSP90AA1	LATS2	NAB2	PIK3C2B	RAD51D	SMARCD1	TOP2A
ARFRP1	CCND1	DDX41	FANCC	GATA4	ICOSLG	LMO1	NBN	PIK3C2G	RAD52	SMC1A	TP53
ARID1A	CCND2	DHX15	FANCD2	GATA6	ID3	LRP1B	NCOA3	PIK3C3	RAD54L	SMC3	TP63
ARID1B	CCND3	DICER1	FANCE	GEN1	IDH1	LYN	NCOR1	PIK3CA	RAF1	SMO	TRAF2
ARID2	CCNE1	DIS3	FANCF	GID4	IDH2	LZTR1	NEGR1	PIK3CB	RANBP2	SNCAIP	TRAF7
ARID5B	CD274	DNAJB1	FANCG	GLI1	IFNGR1	MAGI2	NF1	PIK3CD	RARA	SOC3	TSC1
ASXL1	CD276	DNMT1	FANCI	GNA11	IGF1	MALT1	NF2	PIK3CG	RASA1	SOX10	TSC2
ASXL2	CD74	DNMT3A	FANCL	GNA13	IGF1R	MAP2K1	NFE2L2	PIK3R1	RB1	SOX17	TSHR
ATM	CD79A	DNMT3B	FAS	GNAQ	IGF2	MAP2K2	NFKBIA	PIK3R2	RBM10	SOX2	UZAF1
ATR	CD79B	DOT1L	FAT1	GNAS	IKBKE	MAP2K4	NKX2-1	PIK3R3	RECQL4	SOX9	VEGFA
ATRX	CDC73	E2F3	FBXW7	GRPR124	IKZF1	MAP3K1	NKX3-1	PIM1	REL	SPEN	VHL
AURKA	CDH1	EED	FGF1	GPS2	IL10	MAP3K13	NOTCH1	PLCG2	RET	SPOP	VTCN1
AURKB	CDK12	EGFL7	FGF10	GREM1	IL7R	MAP3K14	NOTCH2	PLK2	RFWD2	SPTA1	WISP3
AXIN1	CDK4	EGFR	FGF14	GRIN2A	INHBA	MAP3K4	NOTCH3	PMAIP1	RHEB	SRC	WT1
AXIN2	CDK6	EIF1AX	FGF19	GRM3	INHBA	MAPK1	NOTCH4	PMS1	RHOA	SRSF2	XIAP
AXL	CDK8	EIF4A2	FGF2	GSK3B	INPP4A	MAPK3	NPM1	PMS2	RICTOR	STAG1	XPO1
B2M	CDKN1A	EIF4E	FGF23	H3F3A	INPP4B	MAX	NRAS	PNRC1	RIT1	STAG2	XRCC2
BAP1	CDKN1B	EML4	FGF3	H3F3B	INSR	MCL1	NRG1	POLD1	RNF43	STAT3	YAP1
BARD1	CDKN2A	EP300	FGF4	H3F3C	IRF2	MDC1	NSD1	POLE	ROS1	STAT4	YES1
BBC3	CDKN2B	EPCAM	FGF5	HGF	IRF4	MDM2	NTRK1	PPARG	RPS6KA4	STAT5A	ZBTB2
BCL10	CDKN2C	EPHA3	FGF6	HIST1H1C	IRS1	MDM4	NTRK2	PPM1D	RPS6KB1	STAT5B	ZBTB7A
BCL2	CEBPA	EPHA5	FGF7	HIST1H2BD	IRS2	MED12	NTRK3	PPP2R1A	RPS6KB2	STK11	ZFXK3
BCL2L1	CENPA	EPHA7	FGF8	HIST1H3A	JAK1	MEF2B	NUP93	PPP2R2A	RPTOR	STK40	ZNF217
BCL2L11	CHD2	EPHB1	FGF9	HIST1H3B	JAK2	MEN1	NUTM1	PPP6C	RUNX1	SUFU	ZNF703
BCL2L2	CHD4	ERBB2	FGFR1	HIST1H3C	JAK3	MET	PAK1	PRDM1	RUNX1T1	SUZ12	ZRSR2
BCL6	CHEK1	ERBB3	FGFR2	HIST1H3D	JUN	MGA	PAK3	PREX2	RYBP	SYK	
BCOR	CHEK2	ERBB4	FGFR3	HIST1H3E	KAT6A	MITF	PAK7	PRKAR1A	SDHA	TAF1	
BCORL1	CIC	ERCC1	FGFR4	HIST1H3F	KDM5A	MLH1	PALB2	PRKCI	SDHAF2	TBX3	
BCR	CREBBP	ERCC2	FH	HIST1H3G	KDM5C	MLL3	PARK2	PRKDC	SDHB	TCEB1	
BIRC3	CRKL	ERCC3	FLCN	HIST1H3H	KDM6A	MPL	PARP1	PRSS8	SDHC	TCF3	
DNA Sequencing of 59 genes for the detection of copy gain and copy loss in ATM, BRCA1, BRCA2 and PTEN											
AKT2	BRCA1	CDK4	ERBB2	FGF1	FGF23	FGF7	FGFR3	LAMP1	MYCL1	PDGFRB	RET
ALK	BRC2A	CDK6	ERBB3	FGF10	FGF3	FGF8	FGFR4	MDM2	MYCN	PIK3CA	RICTOR
AR	CCND1	CHEK1	ERCC1	FGF14	FGF4	FGF9	JAK2	MDM4	NRAS	PIK3CB	RPS6KB1
ATM	CCND3	CHEK2	ERCC2	FGF19	FGF5	FGFR1	KIT	MET	NRG1	PTEN	TFRC
BRAF	CCNE1	EGFR	ESR1	FGF2	FGF6	FGFR2	KRAS	MYC	PDGFRA	RAF1	
RNA Sequencing of 55 genes for the detection of fusions and skipping mutations (splice variants) in MET and EGFR											
ABL1	BCL2	CSF1R	ESR1	EWSR1	FLI1	KIF5B	MSH2	NRG1	EGF7	RAF1	
AKT3	BRAF	EGFR	ETS1	FGFR1	FLT1	KIT	MYC	NTRK1	PDGFRA	RET	
ALK	BRC2A	EML4	ETV1	FGFR2	FLT3	KMT2A	NOTCH1	NTRK2	PDGFRB	ROS1	
AR	BRC2A	ERBB2	ETV4	FGFR3	JAK2	MET	NOTCH2	NTRK3	PIK3CA	RPS6KB1	
AXL	CDK4	ERG	ETV5	FGFR4	KDR	MLL3	NOTCH3	PAX3	PPARG	TMPRSS2	
RNA sequencing of 64 immune genes											
ADORA2A	CD2	CD39	CD80	CXCR6	ICOS	KLRD1	MX1	PD-L1	TBX21	TLR9	
BTLA	CD20	CD4	CD86	DDX58	ICOSLG	LAG3	NECTIN2	PD-L2	TGFB1	TNF	
CCL2	CD27	CD40	CSF1R	FOXP3	IDO1	LAGE1A	NY-ESO-1	PVR	TIGIT	TNFRSF14	
CCR2	CD28	CD40LG	CTLA4	GATA3	IFNG	MAGEA1	OX40	SLAMF4	TIM3	VISTA	
CD137	CD3	CD68	CXCL10	GITR	IL10	MAGEA3	OX-40L	SSX2	TLR7		
CD163	CD38	CD8	CXCR2	GZMB	IL1B	MAGEA4	PD-1	STAT1	TLR8		
Immunohistochemistry for expression of PD-L1											
PD-L1 IHC (22C3), PD-L1 IHC (SP142)											

OmniSeq INSIGHT was developed, and its performance characteristics determined by, OmniSeq, Inc., a CAP-accredited and ISO: 13485:2016-certified CLIA laboratory in Buffalo, NY. OmniSeq® is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) and by the New York State Clinical Laboratory Evaluation Program as qualified to perform high-complexity clinical laboratory testing, including all components of OmniSeq INSIGHT. OmniSeq INSIGHT is CE certified and a registered trademark of OmniSeq, Inc., a subsidiary of Labcorp.