fulgent Oncology

Lumera™ Liquid Biopsy

ctDNA Detection by Liquid Biopsy

A Non-Invasive Solution for Precision Oncology Treatment

The Lumera Liquid Biopsy ctDNA test is a qualitative analysis that uses next-generation sequencing to detect single nucleotide variants (SNVs) and insertions and deletions (indels, up to 40bp) in **521 genes**, as well as assess **tumor mutational burden (TMB)** and **microsatellite instability (MSI)**. In cases where obtaining a tissue biopsy is difficult, comprehensive tumor profiling via liquid biopsy is a valuable tool for diagnosing and monitoring cancer. The use of TMB and MSI assessment may also provide important information to support precision oncology treatments.

Standard tissue sampling is an invasive procedure which is not always available and does not always yield sufficient sample for testing. Circulating tumor DNA (ctDNA) analysis only requires a simple blood draw and provides results that can be used to help develop treatment and management plans in alignment with precise biomarker results.

Highlights

Evaluates 521 genes for SNVs + insertions/deletions up to 40bp

Key immuno-oncology biomarkers
TMB and MSI included in analysis

High sensitivity and specificity down to 0.5% VAF with low DNA input (30ng)

Robust variant detection in genes with actionable guidelines and treatments

Consistent turnaround time
of 10 business days from receipt of specimen in the laboratory

Who This Test is For

This test is an option for patients with hard-to-biopsy tumors, tumors resected at a previous point in time, or metastasized tumors.

Medicare coverage (MolDx approved)

Specimen Requirements

PAXGENE ctDNA TUBES
OR STRECK ctDNA TUBES

2 x 10 mL tubes with peripheral whole blood (when possible)

Contact us to request a kit.

References

PMID: 37865292

Lumera™ Liquid Biopsy Gene List

The Lumera Liquid Biopsy covers the same DNA gene list as our Lumera Xpanded Solid Tumor Profile, which includes DNA sequencing of 521 genes. The assay is capable of >95% detection sensitivity of DNA variants down to 2.5% at standard (80ng) and low (40ng) input. The Liquid Biopsy analysis also covers tumor mutational burden (TMB) and microsatellite instability (MSI).

Sensitivity: ≥ 99% | **Specificity:** 99.99% | **Mean Coverage** >1000x

ABL1	BCL6	CHD2	EMSY	FGF23	GRM3	INHA	MAP3K1	NFE2L2	PIK3CD	RAD52	SMARCB1	TMPRSS2
ABL2	BCOR	CHD4	EP300	FGF3	GSK3B	INHBA	MAP3K13	NFKBIA	PIK3CG	RAD54L	SMARCD1	TNFAIP3
ABRAXAS1	BCORL1	CHEK1	EPCAM	FGF4	H3F3A	INPP4A	MAP3K14	NKX2-1	PIK3R1	RAF1	SMC1A	TNFRSF14
ACVR1	BCR	CHEK2	EPHA3	FGF5	H3F3B	INPP4B	MAP3K4	NKX3-1	PIK3R2	RANBP2	SMC3	TOP1
ACVR1B	BIRC3	CIC	EPHA5	FGF6	H3F3C	INSR	MAPK1	NOTCH1	PIK3R3	RARA	SMO	TOP2A
ADGRA2	BLM	COP1	EPHA7	FGF7	HGF	IRF2	MAPK3	NOTCH2	PIM1	RASA1	SNCAIP	TP53
AKT1	BMPR1A	CREBBP	EPHB1	FGF8	H1-2	IRF4	MAX	NOTCH3	PLCG2	RB1	SOCS1	TP63
AKT2	BRAF	CRKL	ERBB2	FGF9	H2BC5	IRS1	MCL1	NOTCH4	PLK2	RBM10	SOX10	TRAF2
AKT3	BRCA1	CRLF2	ERBB3	FGFR1	H3C1	IRS2	MDC1	NPM1	PMAIP1	RECQL4	SOX17	TRAF7
ALK	BRCA2	CSF1R	ERBB4	FGFR2	H3C2	JAK1	MDM2	NRAS	PMS1	REL	SOX2	TSC1
ALOX12B	BRD4	CSF3R	ERCC1	FGFR3	H3C3	JAK2	MDM4	NRG1	PMS2	RET	SOX9	TSC2
AMER1	BRIP1	CSNK1A1	ERCC2	FGFR4	H3C4	JAK3	MED12	NSD1	PNRC1	RHEB	SPEN	TSHR
ANKRD11	BTG1	CTCF	ERCC3	FH	H3C6	JUN	MEF2B	NTRK1	POLD1	RHOA	SPOP	U2AF1
ANKRD26	BTK	CTLA4	ERCC4	FLCN	H3C7	KAT6A	MEN1	NTRK2	POLE	RICTOR	SPTA1	VEGFA
APC	CALR	CTNNA1	ERCC5	FLI1	H3C8	KDM5A	MET	NTRK3	PPARG	RIT1	SRC	VHL
AR	CARD11	CTNNB1	ERG	FLT1	H3C10	KDM5C	MGA	NUP93	PPM1D	RNF43	SRSF2	VTCN1
ARAF	CASP8	CUL3	ERRFI1	FLT3	H3C11	KDM6A	MITF	NUTM1	PPP2R1A	ROS1	STAG1	WISP3
ARFRP1	CBFB	CUX1	ESR1	FLT4	H3C12	KDR	MLH1	PAK1	PPP2R2A	RPS6KA4	STAG2	WT1
ARID1A	CBL	CXCR4	ETS1	FOXA1	H3C13	KEAP1	MLLT3	PAK3	PPP6C	RPS6KB1	STAT3	XIAP
ARID1B	CCND1	CYLD	ETV1	FOXL2	H3C14	KEL	MPL	PAK5	PRDM1	RPS6KB2	STAT4	XPO1
ARID2	CCND2	DAXX	ETV4	FOXO1	H3C15	KIF5B	MRE11	PALB2	PREX2	RPTOR	STAT5A	XRCC2
ARID5B	CCND3	DCUN1D1	ETV5	FOXP1	H3-4	KIT	MSH2	PARP1	PRKAR1A	RUNX1	STAT5B	YAP1
ASXL1	CCNE1	DDR2	ETV6	FRS2	HLA-A	KLF4	MSH3	PAX3	PRKCI	RUNX1T1	STK11	YES1
ASXL2	CD274	DDX41	EWSR1	FUBP1	HNF1A	KLHL6	MSH6	PAX5	PRKDC	RYBP	STK40	ZBTB2
ATM	CD276	DHX15	EZH2	FYN	HNRNPK	KMT2A	MST1	PAX7	PRKN	SDHA	SUFU	ZBTB7A
ATR	CD74	DICER1	FANCA	GABRA6	HOXB13	KMT2B	MST1R	PAX8	PRSS8	SDHAF2	SUZ12	ZFHX3
ATRX	CD79A	DIS3	FANCC	GATA1	HRAS	KMT2C	MTOR	PBRM1	PTCH1	SDHB	SYK	ZNF217
AURKA	CD79B	DNAJB1	FANCD2	GATA2	HSD3B1	KMT2D	MUTYH	PDCD1	PTEN	SDHC	TAF1	ZNF703
AURKB	CDC73	DNMT1	FANCE	GATA3	HSP90AA1	KRAS	MYB	PDCD1LG2	PTPN11	SDHD	TBX3	ZRSR2
AXIN1	CDH1	DNMT3A	FANCF	GATA4	ICOSLG	LAMP1	MYC	PDGFRA	PTPRD	SETBP1	TCF3	
AXIN2	CDK12	DNMT3B	FANCG	GATA6	ID3	LATS1	MYCL	PDGFRB	PTPRS	SETD2	TCF7L2	
AXL	CDK4	DOT1L	FANCI	GEN1	IDH1	LATS2	MYCN	PDK1	PTPRT	SF3B1	TENT5C	
B2M	CDK6	E2F3	FANCL	GID4	IDH2	LMO1	MYD88	PDPK1	QKI	SH2B3	TERC	
BAP1	CDK8	EED	FAS	GLI1	IFNGR1	LRP1B	MYOD1	PGR	RAB35	SH2D1A	TERT	
BARD1	CDKN1A	EGFL7	FAT1	GNA11	IGF1	LYN	NAB2	PHF6	RAC1	SHQ1	TET1	
BBC3	CDKN1B	EGFR	FBXW7	GNA13	IGF1R	LZTR1	NBN	PHOX2B	RAD21	SLIT2	TET2	
BCL10	CDKN2A	EIF1AX	FGF1	GNAQ	IGF2	MAGI2	NCOA3	PIK3C2B	RAD50	SLX4	TFE3	
BCL2	CDKN2B	EIF4A2	FGF10	GNAS	IKBKE	MALT1	NCOR1	PIK3C2G	RAD51	SMAD2	TFRC	
BCL2L1	CDKN2C	EIF4E	FGF14	GPS2	IKZF1	MAP2K1	NEGR1	PIK3C3	RAD51B	SMAD3	TGFBR1	
BCL2L11	CEBPA	ELOC	FGF19	GREM1	IL10	MAP2K2	NF1	PIK3CA	RAD51C	SMAD4	TGFBR2	
BCL2L2	CENPA	EML4	FGF2	GRIN2A	IL7R	MAP2K4	NF2	PIK3CB	RAD51D	SMARCA4	TMEM127	