CE IVD

Lymphoid Leukemia NGS Panel

NGS Clinical Panels

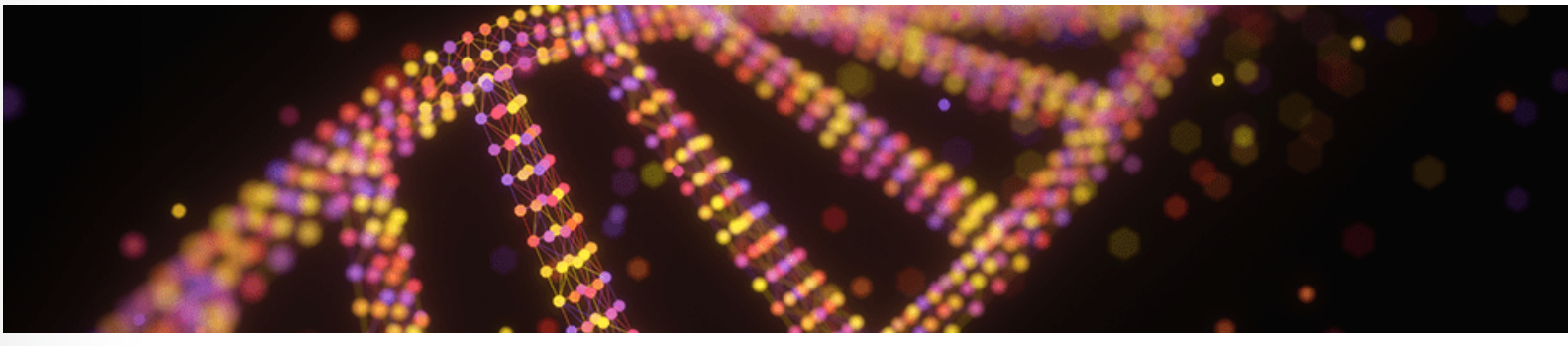
The Genes 2Me Lymphoid Leukemia Panel is a hybridization based solution for targeted sequencing employing NGS. With a fast turnaround time this product provides detection and identification of ~111 clinically relevant genes spanning ~0.37 Mb of genome size (whole coding sequence and hotspots) that covers all major somatic mutations like SNV, InDels, CNV, & fusion linked to lymphoid Leukemia.

Focused Comprehensive Panel: Targets all the lymphoid Leukemia specific genes encapturing ultra-low VAF mutations

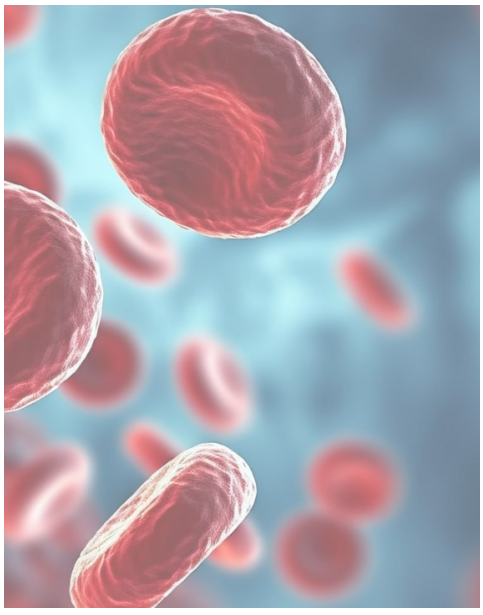
Low Input: Process compatible with low input quality compromised samples

Robust and Rapid Workflow: Hybridization enhancer technology and enzyme based library preparation enables quick turn around time.

CliSeq Interpreter: User friendly companion software for automated & cloud based analysis and reporting.



Lymphoid Leukemia NGS Panel



Lymphoid Leukemia is neoplastic proliferation of mature lymphoid cells affecting blood, bone marrow and other lymphoid organs. It is majorly classified based on the morphology and mature lymphoid cells involved in neoplasm. Majorly B-Lymphoid Leukemia and T-lymphoid Leukemia, it is again sub divided as per the various guidelines. Acute Lymphoblastic Leukemia affects new or immature cells making them remain immature and lack normal functions.

In the recent past lot of progress is made in understanding genes harbouring mutation underlying various subtypes of B and T lymphoid Leukemia.

No. of Genes	111
Gene count /family	~ 75
Covered region	Whole CDS, Hotspots
Target size	~ 0.37 Mb
Mutation type	SNV/InDels/CNV/Fusions
Sample type	Blood, Bone marrow

The Genes 2Me Lymphoid Leukemia Panel detects known, novel, and low-frequency genomic alterations. This laboratory-developed test can be used by clinicians to suggest potential targeted therapy options, detect alterations in prognostic genes.

Gene List

AARS1	ABCA*	ABL1	AKT1	ALK	ATM	B2M	BCL*	BCOR
BIRC3	BRAF	BTG1	BTK	CALR	CARD11	CCND3	CD79*	CDKN2A
COG1	COL4A4	CREBBP	CRLF2	CTNNB1	DDX3X	DNM2	DNMT*	EP300
ETV6	EVC	EZH2	FBXW7	FERMT1	FLT3	FREM2	GATA3	GRM1
HPSE2	ID3	IDH*	IKZF1	IL12RB2	IL7R	JAK*	KDM6A	KMT2*
KRAS	L2HGDH	LAMA3	LEF1	LMO1	MAP2K1*	MEF2B	MPL	MYD88
NDUFV3	NF1	NOTCH1*	NPHS2	NPM1	NRAS	NSD2	NT5C2	NUDT15
PIK3CA	PIM1*	PLCG2	RHOA	SF3B1	STAT*	STK11	SYK	TET2
TNFAIP3	TRAF3	XPO1						

*** Gene family**

Additional Genes covered

PAX5	PDP1	PHF6	PTEN	PTPN11	ABL1	RUNX1	SERPIND1	SETD2
SH2B3	SLC12A6	SOX6	SRY	STAG2	PAX5	TBL1XR1	TCF3	TDRD7
TP53	TPMT	VCAN	WNK1	WT1	RB1	BCR	ETV6	JAK2
KMT2A	MLLT10	MN1	MRTFA	NUP214	SUMF1	PBX1	RBM15	RUNX1
STIL	TAL1	TCF7L1						

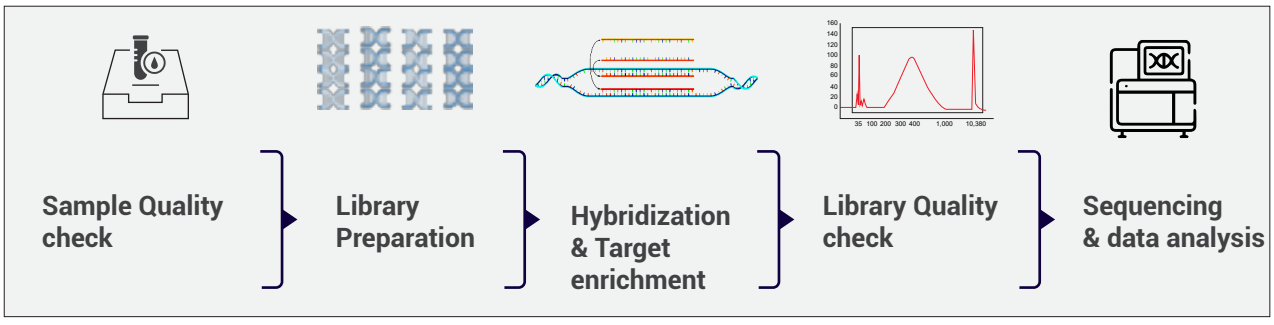
*DNA/RNA Fusion Genes

• BCR • TCF3 • JAK2 • NUP214 • MRTFA • MLLT10 • AML1 • ETV6 • STIL • RBM15 • KMT2A • ABL1, PBX1 • PAX5 • RUNX1 • JAK2 • MN1 • TAL1

Process Workflow

A. Platform Agnostic

Sequencing on multiple platforms (Thermo Ion-Torrent, Illumina, MGI and Element Biosciences)



B. Bioinformatics Solutions

Data Analysis and Interpretation using Genes 2Me Cliseq Interpreter software

RAW DATA (FASTQ) → **QUALTIY CHECK** TRIMMING QC METRICES → **ALIGNMENT** (BAM) → **TARGETED VARIANT CALLING** (VCF) → **SOMATIC DATABASES** → **ANNOTATION** (VCF) → **FILTER** As per Allele frequency & Phenotypic information → **CSM** (Clinical Significant Mutations) **REPORT**

Panel Performance

Features	Illumina	MGI	Thermo Fisher
Coverage uniformity	>98%	>96%	>85%
Precision	>95%	>96%	>90%
Reproducibility	99%	99%	99%
Sensitivity	5% VAF@>95%	5% VAF@>95%	5% VAF@>95%
On Target Ratio	85-95 %	83-95%	70-80%

Specifications

Starting Material (DNA)	Library preparation time	Bioinformatics analysis	Databases used for Annotation
50-500 ng	1.5 days (including Target Capture & Enrichment) for manual process	Within 24hrs (Raw data to CSM report)	COSMIC, TCGA, ICGC, FusionDB, OncoDB, ClinVar, gnomAD 1000Genome, dbSNP, OMIM
	With **G2M Auto EzyPrep automated NGS Library preparation system:** Minimum Hands-on required		

Gene & Drug details

Type of Cancer	Gene	Drug
Lymphoid -Peripheral Blood	TP53	Ivosidenib, olutasidenib
Acute lymphoblastic leukemia	ATM	acute lymphoblastic leukemia

References

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Ordering Details

Commercial Name	Cat No.	Pack Size
Lymphoid Leukemia NGS Panel	G2MLL30001-ill	96T
	G2MLL30001-MG	96T
	G2MLL30001-TF	96T

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