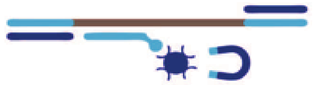
TRUNGS® Solid Tumor Panel

(A comprehensive Solid Tumor Assay detecting SNVs, Indels, CNVs and RNA Fusions in 35 Marker Genes and Hotspots in 6 PGx Genes)

truNGS®

Library preparation



Target Enrichment

Alignment & Variant Calling

Report Generation

TRUNGS® Solid Tumor Panel is designed to detect SNVs, Indels, CNVs and RNA fusions in 35 marker genes and hotspots in 6 pharmocogenomics genes associated with solid tumors such as lung, colorectal/gastro-intestinal, liver, brain, melanoma and head & neck cancer.

Gene Panel

ALK, BRAF, EGFR, ERBB2, ERBB3, ESR1, FGFR3, HRAS, IDH1, IDH2, KIT, KRAS, MET, MLH1, MSH2, MSH6, NRAS, NTRK1, NTRK2, NTRK3, PDGFRA, PIK3CA, PMS2, POLD1, POLE, PTEN, RET, ROS1, SMAD4, TP53, CTNNB1, TERT, H3F3A, H3F3B, DICER1

Specifications

Starting Material:
50-100 ng of DNA, 300-600 ng RNA
Sample source:
FFPE, Fresh-Frozen Tissue
Target region for DNA Panel:
117 kb
Target region for RNA Panel:
74 kb
Library preparation time:
1.5 days
Bioinformatics Analysis:
1.5 hrs (from FASTQ to report)

Panel Design

ALK ♦●■	BRAF ♦●■	CTNNB1 ♦	DICER1 ♦	EGFR ♦●■	ERBB2 ♦●■
ERBB3 ♦	ESR1 ♦	FGFR3 ●	H3F3A ♦	H3F3B ♦	HRAS ♦
IDH1 ♦	IDH2 ♦	KIT ♦	KRAS ♦■	MET ♦●■	MLH1 ♦
MSH2 ♦	MSH6 ♦	NRAS ♦■	NTRK1 ●	NTRK2 ●	NTRK3 ●
PDGFRA ♦	PIK3CA ♦●■	PMS2 ♦	POLD1 ♦	POLE ♦	PTEN ♦■
RET ♦●■	ROS1 ♦●	SMAD4 ♦	TERT ♦■	TP53 ♦	

♦ **SNVs/Indels** ● **Fusions** ■ **CNV**

PGx Hotspot mutations

UGT1A1: (rs4148323) | CYP2D6: (rs5030655) | MTHFR: (rs1801133)

TPMT: (rs1142345, rs1800460) | CYP2C9: (rs1799853, rs1057910)

DPYD: (rs3918290, rs67376798, rs55886062, rs115232898, rs75017182)

TRUNGS® Solid Tumor Panel is carefully curated panel of 35 genes with Clinical Actionability (AACR) mutations especially relevant to lung and colorectal cancers.

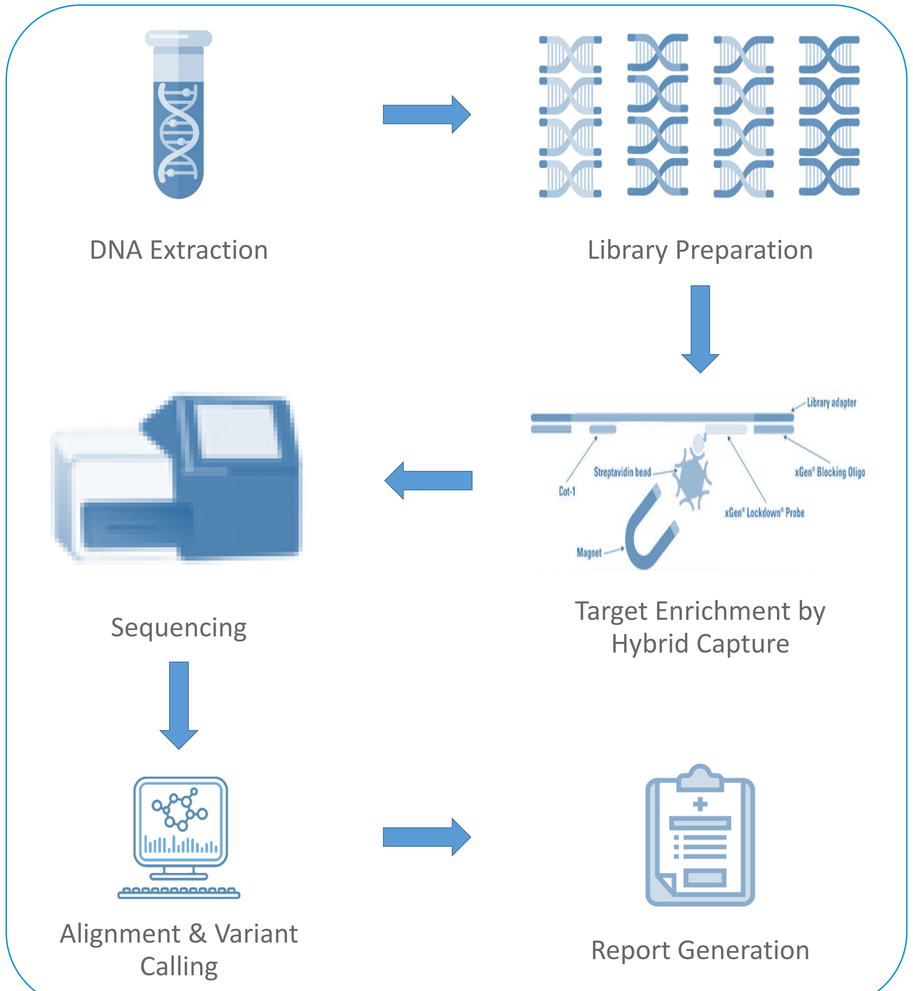
- Designed as per NCCN and ESMO Guidelines
- Detects SNV/Indels, CNV and RNA Fusions
- Uses of Hybrid Capture technology to ensure full coverage of all exonic regions of each gene and allows for the discovery of novel mutations /alterations
- Includes hotspot for six clinically relevant pharmacogenomics genes: *DPYD, UGT1A1, CYP2D6, MTHFR, TPMT and CYP2C9*
- LoD as low as 3.5% (calculated for SNV using reference material at 500X)

Sensitivity	100%	Accuracy	100%
Reproducibility	99.99	Precision	100%
Repeatability	100%	Coverage uniformity	98%

Sequencing and Sample Multiplexing

Illumina Flowcell	No. of Samples Recommended/Run
iSeq 100	8
MiSeq Reagent Kit v2	32
MiSeq Reagent Kit v2 Micro	8
MiniSeq System Mid-Output Kit	14

NGS Workflow



3B BlackBio Biotech India Ltd.
An ISO 13485:2016 Certified Company

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Clinical Actionability

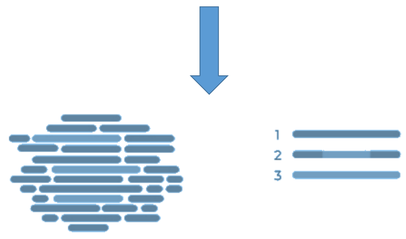
Disease	Gene	Drug(s)	Level of Evidence
Non-Small Cell Lung Cancer	ALK	Alectinib Ceritinib Crizotinib	Level 1
	EGFR	Afatinib Afatnib Erlotinib Gefitinib Gefitnib Osimertinib	Level 1
	ROS1	Crizotinib	Level 1
	BRAF	Dabrafenib Dabrafenib+Trametinib Vemurafenib	Level 2A
	MET	Crizotinib	Level 2A
	RET	Cabozantinib	Level 2A
	ALK	Brigatinib	Level 3A
	EGFR	Dacomitinib	Level 3A
	ERBB2	Lapatinib	Level 3A
	MET	Cabozatinib Capmatinib Crizotinib	Level 3A
	RET	Vandetanib	Level 3A
	ROS1	Cabozantinib	Level 3A
Colorectal Cancer	KRAS	Cetuximab Panitumumab Regorafenib	Level 1
	BRAF	Panitumumab+Vemurafenib	Level 3A

Disease	Gene	Drug(s)	Level of Evidence
Gastrointestinal Cancer	KIT	Imatinib Regorafenib Sunitinib	LEVEL_1
	KRAS	Cetuximab Panitumumab Regorafenib	LEVEL_1
	KIT	Dasatinib Nilotinib Sorafenib	LEVEL_2A
	ERBB2	Trastuzumab	LEVEL_1
	PDGFRA	Dasatinib Imatinib	LEVEL_2A
	BRAF	Panitumumab+Vemurafenib	LEVEL_3A
Melanoma	BRAF	Cobimetinib+Vemurafenib Dabrafenib Dabrafenib+Trametinib Trametinib Vemurafenib	Level 1
	KIT	Imatinib	Level 2A
	BRAF	Trametinib	Level 3A
	NRAS	Binimetinib Binimetinib+ribociclib	Level 3A
Head & Neck	NTRK1	Entrectinib	Level 3A
	NTRK2	Entrectinib LOXO-101	Level 3A
	NTRK3	Entrectinib LOXO-101	Level 3A

Bioinformatics Analysis

Illumina Sequencing

FastQ Upload (CLI or Portal)



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