PILLAR BIOSCIENCES

Pillar® ONCO/Reveal™ Multi-Cancer Panel

The ONCO/Reveal Multi-Cancer Panel is a robust NGS assay that interrogates 56 genes of interest* across multiple solid tumor cancer types. The assay uses proprietary Stem-Loop Inhibition-Mediated amplification (SLIMamp®) technology, a tiled amplicon-based library prep chemistry for efficient single-tube target enrichment.

ONCO/Reveal Multi-Cancer Panel (56 genes)

ABL1	CSF1R	FGFR1	HNF1A	KRAS	NTRK1	ROS1
AKT1	CTNNB1	FGFR2	HRAS	MAP2K1	PDGFRA	SMAD4
ALK	DDR2	FGFR3	IDH1	MET	PIK3CA	SMARCB1
APC	EGFR	FLT3	IDH2	MLH1	PTEN	SMO
ATM	ERBB2	FOXL2	JAK2	MPL	PTPN11	SRC
BRAF	ERBB4	GNA11	JAK3	NOTCH1	RAC1	STK11
CDH1	EZH2	GNAQ	KDR	NPM1	RB1	TP53
CDKN2A	FBXW7	GNAS	KIT	NRAS	RET	VHL

Simple NGS library prep workflow

Maintain control of samples and results with single-tube, tiled amplification that can be performed in-house by any NGS lab

Sensitive and robust chemistry

Achieve variant detection as low as 1% VAF† without UIDs‡ even with limited DNA input or poor sample quality

Reduced fully-loaded lab costs

Improve lab efficiency with quicker turnaround time and reduced “no calls”, repeat testing, and difficult interpretation decisions

Simple, one-day workflow

Gene-specific PCR & cleanup · Indexing PCR & cleanup · Quantitation & normalization · Load sequencer

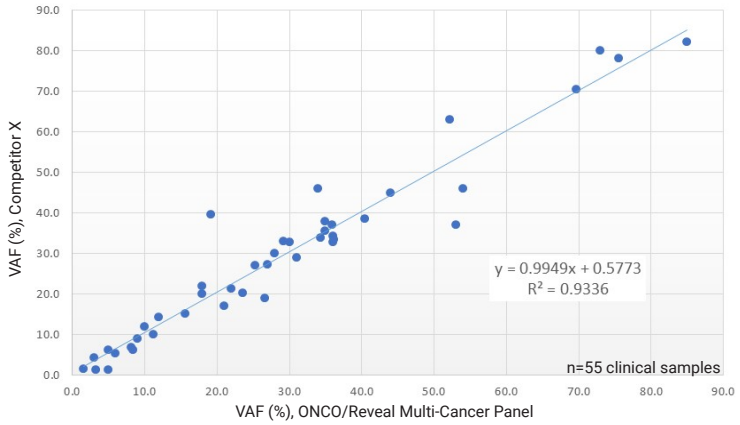
*Content is based on data from ongoing clinical trials along with sources that include the College of American Pathologists (CAP), the Associations for Molecular Pathology (AMP), the National Comprehensive Cancer Network (NCCN), and the Catalog of Somatic Mutations in Cancer (COSMIC) database.
†VAF, variant allele frequency; ‡UID, unique ID; also known as unique molecular ID (UMI)

Panel specifications

Enrichment chemistry	Multiplex PCR using tiled amplicons
Number of pools	**1 pool**
Number of genes/amplicons	56/251
Number of targets	>7,200 hotspots, 6,000 SNVs, 1,200 indels, 24kb total size
Variant types	SNVs, indels
Average amplicon size	143bp
Recommended DNA input range	5ng to 80ng
Sample types	DNA from tissue or blood; FFPE
Mapping rate	96.7% ± 5.2%
% on-target aligned reads	98.3% ± 1.8%
Coverage uniformity (% targets with >0.2X mean coverage)	94.4% ± 0.4%
Total assay time (from DNA to sequencer)	<8 hours
Sequencing platforms	Illumina®; assays are coming soon for MGISEQ™ and Ion Torrent™ platforms

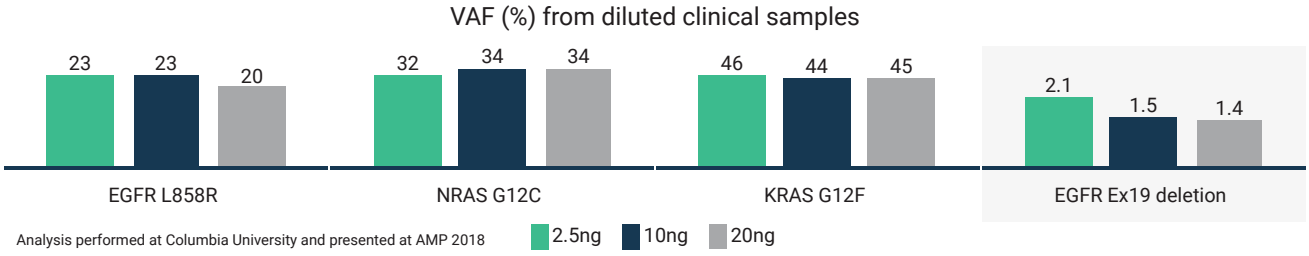
Sensitive variant detection

The ONCO/Reveal Multi-Cancer Panel demonstrated high sensitivity and concordance across the range of allele frequencies.



Variant	# samples	VAF range (%)
BRAF V600E	4	1.6 – 44
BRAF Other	2	5
EGFR exon19 deletion	7	1.4 – 42
EGFR exon 20 insertion	2	18 - 22
EGFR L858R	4	16 - 80
EGFR T790M	2	3-10
KRAS G12A/C/D/F/S/V	15	6-33
KRAS G12R	1	28
KRAS K117	1	16
KIT exon11 deletion	2	35, 63
MET exon14 skipping	2	72, 75
NRAS Q61K/R	2	40, 80
NRAS G12C	1	38
PIK3CA E545K/H1047R	2	6, 36
STK11 missense	2	35, 28
STK11 deletion	1	20
TP53 nonsense	5	21

The ONCO/Reveal Multi-Cancer Panel provides sensitivity and reproducibility even with low DNA inputs. High concordance was demonstrated among **clinical samples** diluted to 2.5ng, 10ng, and 20ng of input DNA. The EGFR exon 19 deletion was detected at a 1%-2% VAF from only 2.5ng input DNA without UIDs.



Order or learn more at

pillar-biosciences.com

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