PILLAR BIOSCIENCES

Pillar® ONCO/Reveal™ BRCA1 & BRCA2 Panel

The ONCO/Reveal BRCA1 & BRCA2 Panel is a robust NGS assay to sequence the **entire coding regions** of the BRCA1 and BRCA2 genes plus 20bp of flanking introns. The assay uses proprietary Stem-Loop Inhibition-Mediated amplification (SLIMamp®) technology, a tiled amplicon-based library prep chemistry for efficient single-tube target enrichment.

Panel specifications

Enrichment chemistry	Multiplex PCR using tiled amplicons
Number of pools	**1 pool**
Number of genes/amplicons	2/91
Number of targets	Full coding gene sequence (CDS) with flanking intronic regions (20bp), 17 kb total size
Variant types	SNVs, indels
Average amplicon size	331bp
Recommended DNA input range	5ng to 100ng
Sample types	Genomic DNA from blood or tissue
Mapping rate	99.8% ± 0.3%
% on-target aligned reads	99.8% ± 0.2%
Coverage uniformity (% targets with >0.2X mean coverage)	98.3% ± 1.3%
Total assay time (from DNA to sequencer)	<8 hours
Sequencing platforms	Illumina®; assays are coming soon for MGISEQ™ and Ion Torrent™ platforms

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‡ 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

† VAF, variant allele frequency
‡ UID, unique ID; also known as unique molecular ID (UMI)

Simple, one-day workflow

DNA sample → Library preparation → Sequencing → PiVAT® data analysis → Reporting

Library preparation: Gene-specific PCR & cleanup → Indexing PCR & cleanup → Quantitation & normalization → Load sequencer

High sensitivity and specificity

The ONCO/Reveal BRCA1 & BRCA2 Panel has exceptional sensitivity and specificity. When evaluated on 34 unique reference standards and patient samples with known genotypes, no false positives or false negatives were detected, revealing a sensitivity of 100% and a specificity of 100%.

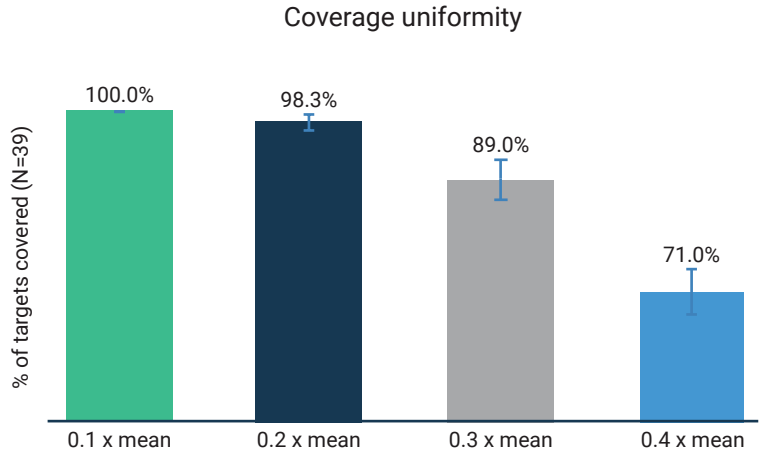
	Variant detected			Variant not detected	
True positive	409	SNV: HET	234	False negative	0
		SNV: HOM	153		
		Indels: HET (1-40bp)	22		
False positive	0			True negative*	603737

*True negative = Size of ROI (17769bp) x total samples (34) - total true positives in all samples

Schenck D. et al., PLoS One 2017 12(7):e0181062. Amplification of overlapping DNA amplicons in a single-tube multiplex PCR for targeted next-generation sequencing of BRCA1 and BRCA2. PMID: 28704513

Excellent coverage uniformity

The ONCO/Reveal BRCA1 & BRCA2 Panel demonstrated excellent coverage uniformity across 39 cell line and tissue samples, as shown in the graph below.



Order or learn more at
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