ACCEL-AMPLICON™ PLUS BRCA1 AND BRCA2 PANEL

The BRCA1 and BRCA2 Panel offers comprehensive coding DNA sequence coverage of the *BRCA1* and *BRCA2* tumor suppressor genes. The panel covers over 1,400 COSMIC and 13,000 ClinVar mutations and generates targeted libraries compatible with Illumina® sequencing platforms.

The panel enables:

- Full coding sequence coverage of *BRCA1* and *BRCA2* genes
- Compatibility with wide range of samples
- Data analysis options including Primerclip and Genialis
- Addition of your own custom content
- Panel can be extended or added as a module into other custom panels

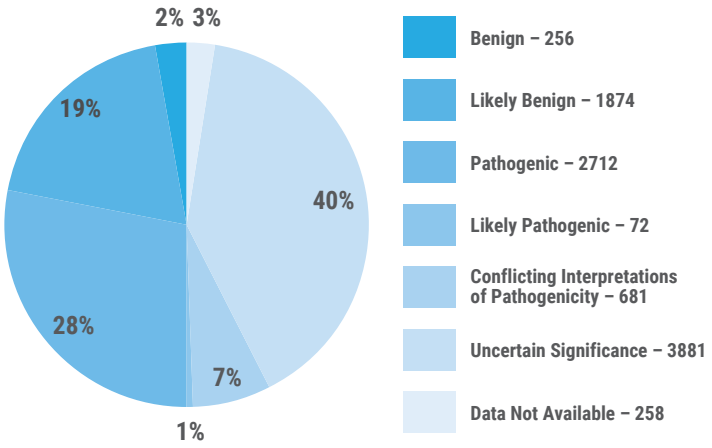

Figure 1. *ACMG and AMP-classified variants of clinical significance covered by BRCA1 and BRCA2 Panel.*

Panel Specifications

Disease Relevance	Breast Cancer
Amplicons	246
Average Amplicon Size	148 bp
Number of Genes	2
Gene List	***BRCA1, BRCA2* (whole CDS coverage)**
Total Target	23 kb
Input Recommended	10 ng amplifiable DNA
Assay Format	Single-tube Multiplex PCR reaction + Dual Indexed Adapters
Time Required	2 hours from DNA to library
Multiplexing on MiSeq v3 at 5000X depth (50M PE reads)	40 samples
Limit of Detection	1% SNV
Sample Compatibility	Cell line, whole blood, cell-free DNA, FFPE

Performance

Achieve Robust Sequencing Performance Over a Wide Range of Samples

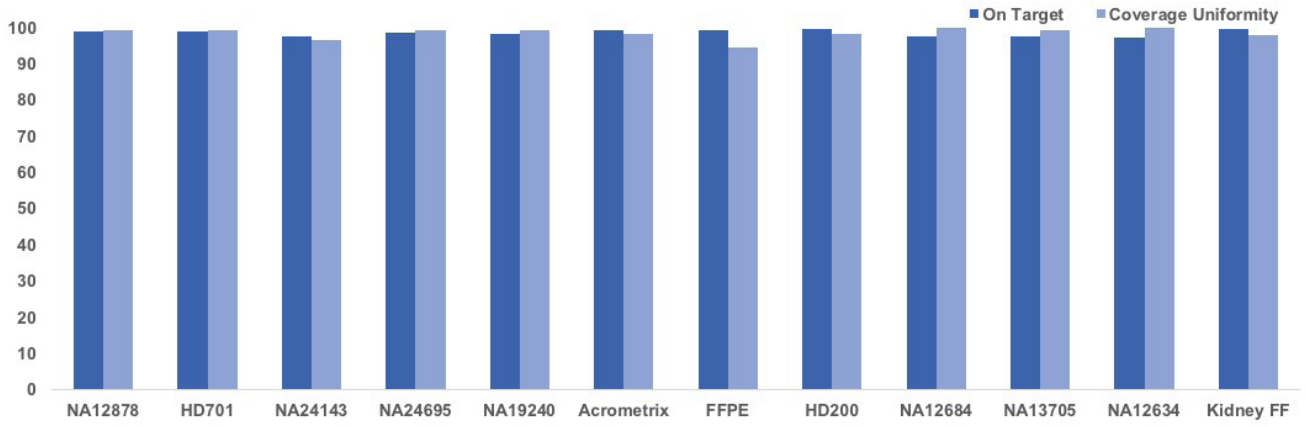

Figure 2. *An array of control DNA samples (10 ng input for each) was used to generate libraries with the Accel-Amplicon Plus BRCA1 and BRCA2 Panel. The samples include male and female Coriell repository DNAs of different ethnicities, Horizon HD701 quantitative multiplex reference standard, the Acrometrix™ Oncology Hotspot Control, gDNA and cfDNA extracted from human blood, circulating cell-free DNA, and three formalin-compromised samples, including Horizon HD200 FFPE. Libraries were sequenced on an Illumina MiniSeq instrument and the on target aligned reads and coverage uniformity percentages were plotted.*

Detect Key Variants Accurately from Formalin-Compromised DNA

CHR	POS	Gene	Mutation AA	Mutation Type	Expected Frequency (%)	Average (%)	Standard Deviation (%)
13	32913559	BRCA2	A1689fs	DEL	33	32.2	0.1

Figure 3. *The Accel-Amplicon Plus BRCA1 and BRCA2 Panel consistently detected the validated BRCA2 variant at the expected frequency in replicates from 10 ng of the Horizon Diagnostics Quantitative Multiplex DNA Reference Standard HD200. Variants were called by LoFreq (Genome Institute of Singapore).*

Fully customizable. Rapidly create your own panel by building from our pre-designed Accel-Amplicon Plus panels. You can add any target gene including our pre-validated primers or novel targets. We will design, pool and validate your assay for you.

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