ACCEL-AMPLICON™ PLUS COMPREHENSIVE TP53 PANEL

The Comprehensive TP53 Panel offers comprehensive coding DNA sequence coverage of the *TP53* tumor suppressor gene. The panel covers over 1,000 COSMIC and 700 ClinVar mutations and generates targeted libraries compatible with Illumina® sequencing platforms.

The panel enables:

- Full exon coverage of *TP53*
- 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

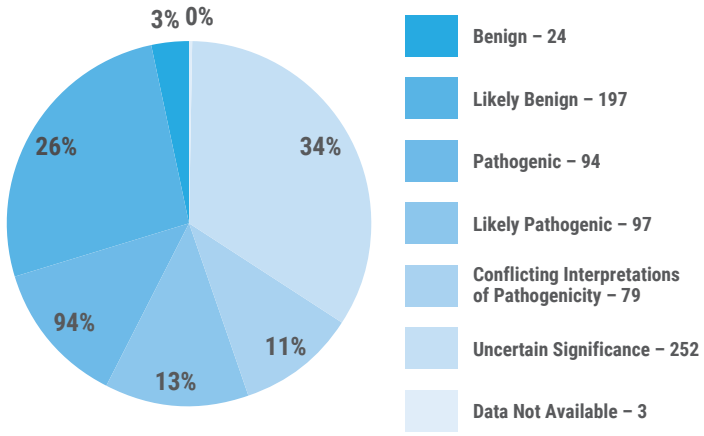

Figure 1. *ACMG and AMP-classified variants of clinical significance covered by the Comprehensive TP53 Panel.*

Panel Specifications

Disease Relevance	Cancer
Amplicons	21
Average Amplicon Size	140 bp
Number of Genes	1
Gene List	***TP53* (whole CDS coverage)**
Total Target	2 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 v2 Micro at 5000X depth (8M PE reads)	76 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

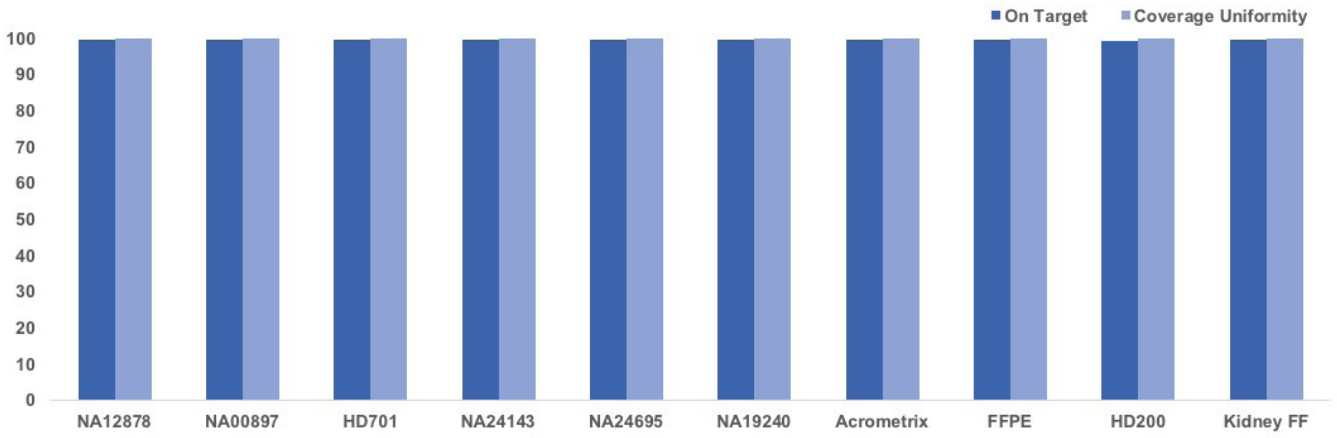

Figure 2. *An array of control DNA samples (10 ng input for each) was used to generate libraries with the Accel-Amplicon Plus Comprehensive TP53 Panel. The samples include male and female Coriell repository DNAs of different ethnicities, Horizon HD701 quantitative multiplex reference standard, the Acrometrix™ Oncology Hotspot Control, high molecular weight genomic DNA, 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 Low Frequency Variants Accurately from Formalin-Compromised DNA

Mutation Type	Allele Frequency	Expected Number of Exonic Variants	Detected Number of Variants	Analytical Sensitivity (%)
SNV, Indel	5-15%	42	42	100%
SNV	Genomic	1	1	100%

Figure 3. *The Accel-Amplicon Plus Comprehensive TP53 Panel consistently detected validated variants at the expected frequency in replicates from 10 ng of the Acrometrix Oncology Hotspot Control. Variants were called by LoFreq (Genome Institute of Singapore) and GATK HaplotypeCaller (Broad Institute). Note: two genomic frequency variants present in the control DNA are intronic, which is intentionally not covered by the panel design.*

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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