



## ACCEL-AMPLICON® PLUS COLORECTAL CANCER PANEL

The Colorectal Cancer Panel offers comprehensive and exon-level hotspot coverage of 16 clinically-relevant colorectal genes. The panel covers over 11,000 COSMIC and 3,500 ClinVar mutations and generates targeted libraries compatible with Illumina® sequencing platforms. In addition, the panel includes full exon coverage of *TP53* and enables validated CNV detection in the *ERBB2* gene.

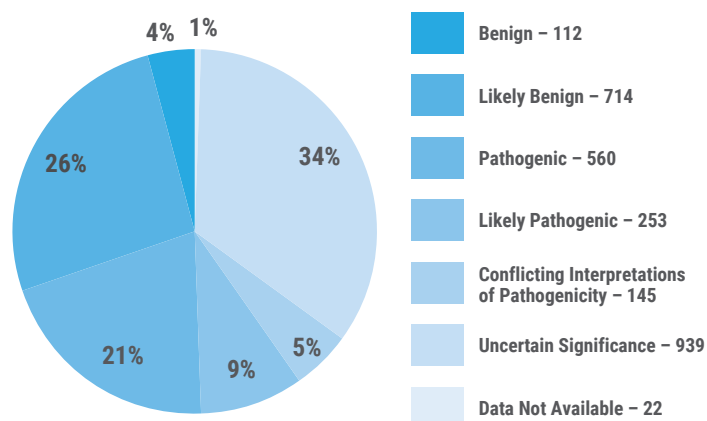


Figure 1. ACMG and AMP-classified variants of clinical significance covered by the Colorectal Cancer Panel

### This panel enables:

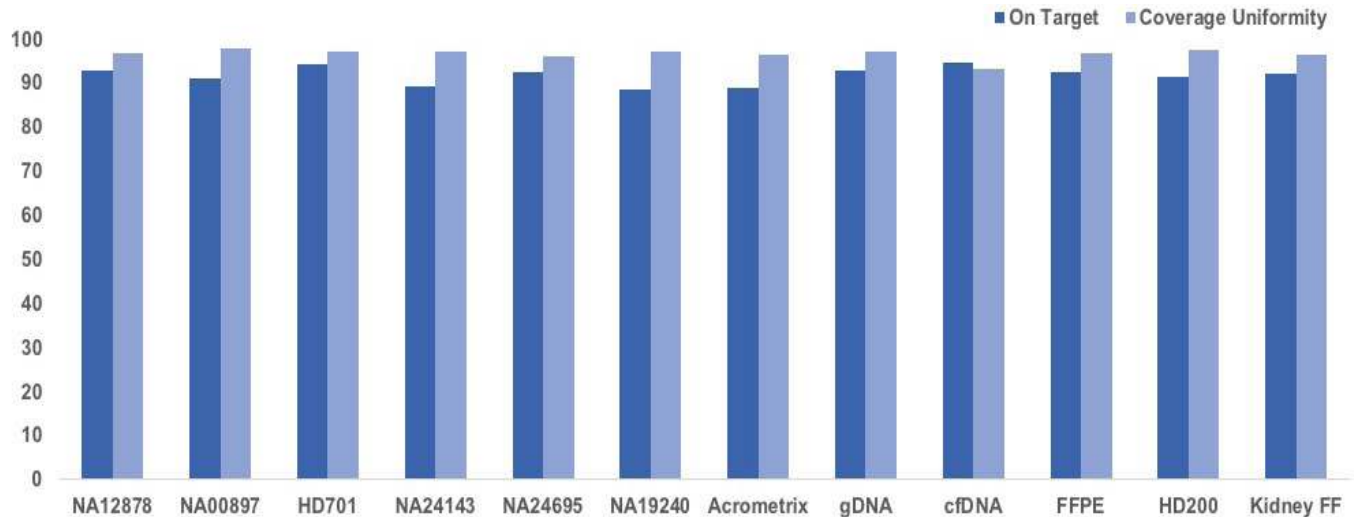
- Full exon coverage of *TP53*
- CNV detection in *ERBB2*
- Compatibility with wide range of samples
- Data analysis options including Primerclip and Genialis
- Addition of your own custom content

## Product Specifications

| Feature  | Specification   |
|--|---|
| Amplicons  | 186   |
| Average Amplicon Size                                  | 143 bp  |
| Number of Genes  | 16  |
| Gene List  | <i>AKT1, APC, BRAF, ERBB2, ERBB4, KIT, KRAS, NOTCH1, NRAS, PDGFRA, PIK3CA, POLE, PTEN, SMAD4, STK11, <b>TP53</b></i><br>( <b>Bold</b> indicates whole CDS coverage) |
| Total Target   | 17 kb   |
| CNV Detection  | ERBB2   |
| Input Recommended                                      | 10 ng amplifiable DNA   |
| Assay Format   | Single-tube Multiplex PCR reaction + Dual Indexed Adapters  |
| Multiplexing on MiSeq v3 at 5000X depth (50M PE reads) | 53 samples  |
| Time Required  | 2 hours from DNA to library   |
| 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 Colorectal Cancer 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.

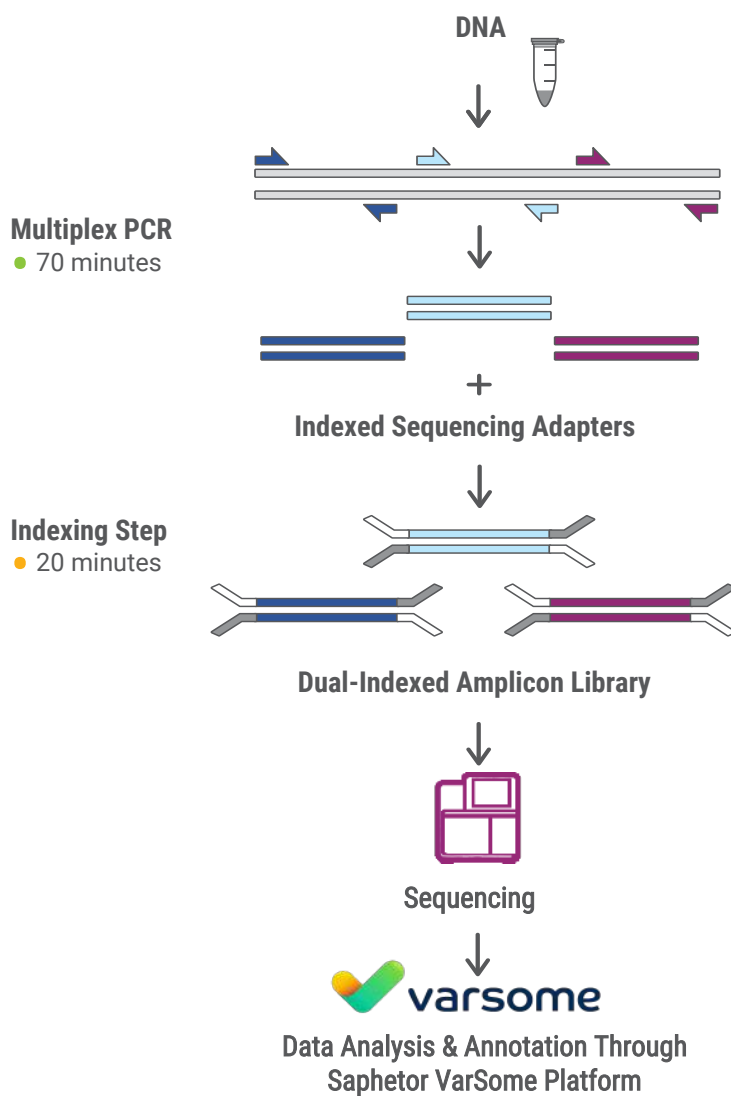
### Detect Low Frequency Variants Accurately from Formalin-Compromised DNA

| CHR | POS       | Gene   | Mutation AA | Mutation Type | Expected Frequency (%) | Average (%) |
|-----|-----------|--------|-------------|---------------|------------------------|-------------|
| 1   | 115256530 | NRAS   | Q61K        | SNV           | 12.5                   | 10.4        |
| 3   | 178936091 | PI3KCA | E545K       | SNV           | 9.0                    | 7.1         |
| 4   | 55599321  | KIT    | D816V       | SNV           | 10.0                   | 9.1         |
| 7   | 140453136 | BRAF   | V600E       | SNV           | 10.5                   | 11.0        |
| 12  | 25398281  | KRAS   | G13D        | SNV           | 15.0                   | 15.3        |
| 12  | 25398284  | KRAS   | G12D        | SNV           | 6.0                    | 5.7         |

**Figure 3.** The Accel-Amplicon Plus Colorectal Cancer Panel consistently detected validated variants 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.

## Single-Tube, 2-Hour Workflow



The single-tube workflow includes two brief incubations to generate the multiplex amplicon targets and add a unique combination of Illumina-compatible indexed adapters, creating up to 96 uniquely-indexed libraries for multiplexing on a single sequencing run.

## Ordering Information

| Product Name   | Indexing Included  | Catalog No. |
|--|--------------------|-------------|
| Accel-Amplicon™ Plus Colorectal Cancer Panel (48 rxns) | 8 i5* X12 D701-712 | AP-CR8048   |
| VarSome Data Analysis Token (48 Samples)               | N/A                | AL-VS48     |

i5\* Illumina Truseq CD indexes D501-D508

\*\* Larger kit sizes available for custom projects.

Visit [www.swiftbiosci.com](http://www.swiftbiosci.com) for easy ordering.



**Swift Biosciences, Inc.**

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