

CleanPlex® TP53 Panel

Rapid and sensitive detection of somatic mutations in *TP53*

Highlights

- Sensitive Detection**
 Detect somatic mutations as low as 1% variant allele frequency using just 20 ng of DNA
- Fast, Streamlined Workflow**
 Generate sequencing-ready libraries in just 3 hours using a rapid, three-step protocol
- Superb Performance**
 Prepare high-quality NGS libraries with excellent on-target performance using CleanPlex® Technology to enable efficient use of sequencing reads and reduce costs

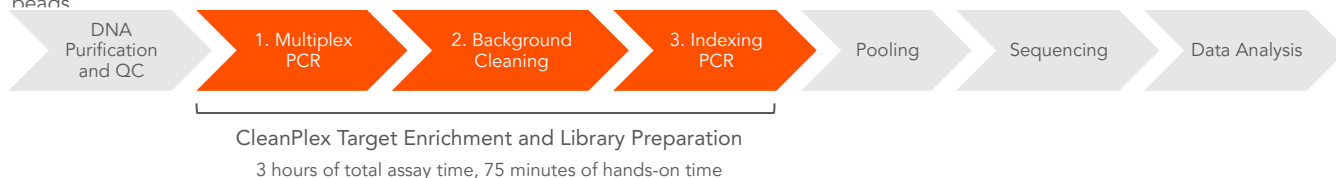
The CleanPlex® TP53 Panel is a multiplex PCR-based targeted resequencing assay designed to simplify the evaluation of somatic and germline variants across the *TP53* gene. The panel targets all exonic regions and flanking intronic sequences of *TP53*. Starting with just 20 ng of DNA, sequencing-ready libraries can be prepared using a streamlined workflow in just 3 hours. The panel is optimized to deliver data with high on-target performance and high coverage uniformity to ensure efficient use of sequencing reads.

Sensitive Detection

The CleanPlex TP53 Panel allows detection of somatic mutations down to 1% frequency using just 20 ng of input DNA (10 ng per primer pool). With an average amplicon size of 133 bp, the panel is also compatible with degraded samples such as DNA isolated from FFPE tissues.

CleanPlex Streamlined Workflow

The CleanPlex TP53 Panel offers a rapid and streamlined workflow. Starting from purified and quantitated DNA, the multiplex PCR-based protocol can be completed in just 3 hours, with 75 minutes of hands-on time, using a three-step workflow with minimal tube-to-tube transfers. Each step consists of a thermal cycling or incubation condition, followed by “with bead” purification using magnetic beads.



CleanPlex TP53 Panel Specifications

Parameter	Specification
Enrichment Method	Multiplex PCR
Sequencing Platforms	Illumina®, Ion Torrent™
Number of Genes	1
Targets	Full exons of the <i>TP53</i> gene
Cumulative Target Size	2,080 bp
Variant Types	SNVs, indels ^A
Number of Amplicons	29
Amplicon Size	107 – 160 bp (133 bp on average)
Number of Primer Pools	2
Input DNA Requirement	10 – 40 ng per pool (10 ng per pool recommended)
Sample Types	Genomic DNA from blood, saliva, or tissue; FFPE DNA
Total Assay Time	3 hours
Hands-On Time	75 minutes
Design Coverage	100 %
Coverage Uniformity (targets with >0.2X mean coverage)	≥ 95%
On-Target Aligned Reads	≥ 95%

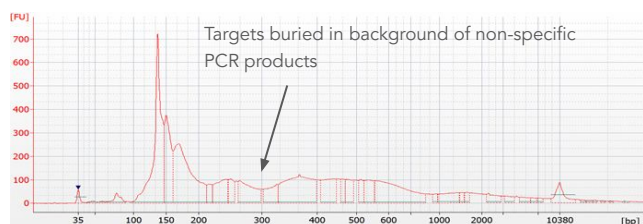
^A. SNVs: single nucleotide variations; indels: insertions-deletions

CleanPlex® TP53 Panel | Product Sheet

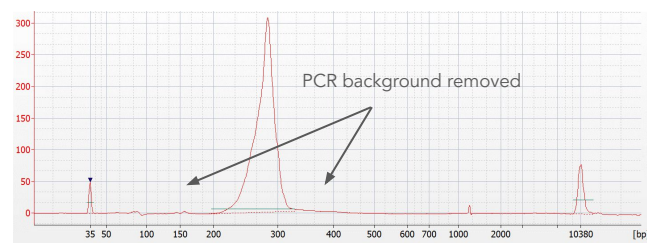
CleanPlex Background Cleaning Chemistry

The CleanPlex TP53 Panel is powered by Paragon Genomics' CleanPlex Technology, which uses a proprietary multiplex PCR background cleaning chemistry to effectively remove non-specific PCR products, resulting in best-in-class target enrichment performance and efficient use of sequencing reads.

Library generated *without* CleanPlex technology



Library generated *with* CleanPlex technology



Recommended Sample Multiplexing for CleanPlex TP53 Panel

Instrument	Samples per Run ^A
iSeq™ 100 System	55
MiniSeq™ System (mid-output)	110
MiSeq® System (v2 chemistry Nano)	13
MiSeq System (v2 chemistry Micro)	55

^A. Samples per run at an intended average read depth of 5,000X.

Ordering Information

The CleanPlex TP53 Panel contains CleanPlex Multiplex PCR Primers and CleanPlex Targeted Library Kit. CleanPlex Indexed PCR Primers and CleanMag® Magnetic Beads are ordered separately to complete the workflow from input DNA to sequencing-ready NGS libraries. For more indexing options, including Ion Torrent™ indexes, and additional product configurations visit www.paragongenomics.com/store/

Product	SKU
CleanPlex TP53 Panel (8 reactions)	916008
CleanPlex TP53 Panel (96 reactions)	916009
CleanPlex Dual-Indexed PCR Primers for Illumina® Set A1 (16 indexes, 16 reactions)	716005
CleanPlex Dual-Indexed PCR Primers for Illumina® Set A (96 indexes, 96 reactions)	716006
CleanMag Magnetic Beads (1 mL)	718001
CleanMag Magnetic Beads (5 mL)	718002
CleanMag Magnetic Beads (60 mL)	718003

Learn More

To learn more about CleanPlex Ready-to-Use NGS Panels, visit www.paragongenomics.com/cleanplex_panels/

To learn more about CleanPlex Technology, visit www.paragongenomics.com/cleanplex_technology/