

CleanPlex® for MGI OncoZoom® Cancer Hotspot Panel

Rapid survey of hotspot regions in 65 oncogenes and tumor suppressor genes

Highlights

- **Relevant Gene Content**
Target 2,900+ hotspots in 65 genes with known cancer associations
- **Fast, Single-Tube Workflow**
Generate sequencing-ready libraries in just 3 hours using a three-step, single-tube 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® for MGI OncoZoom® Cancer Hotspot Panel is a multiplex PCR-based targeted resequencing assay designed for rapid detection of somatic mutations across the hotspot regions of 65 oncogenes and tumor suppressor genes. Starting with just 10 ng of DNA, sequencing-ready libraries can be prepared using a single-tube 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.

CleanPlex for MGI OncoZoom Cancer Hotspot Panel Gene List

<i>ABL1</i>	<i>CTNNB1</i>	<i>FGFR3</i>	<i>JAK3</i>	<i>NF2</i>	<i>RET</i>
<i>AKT1</i>	<i>DDR2</i>	<i>FLT3</i>	<i>KDR</i>	<i>NOTCH1</i>	<i>SMAD4</i>
<i>ALK</i>	<i>DNMT3A</i>	<i>FOXL2</i>	<i>KIT</i>	<i>NPM1</i>	<i>SMARCB1</i>
<i>APC</i>	<i>EGFR</i>	<i>GNA11</i>	<i>KRAS</i>	<i>NRAS</i>	<i>SMO</i>
<i>ATM</i>	<i>ERBB2</i>	<i>GNAQ</i>	<i>MAP2K1</i>	<i>PDGFRA</i>	<i>SRC</i>
<i>BRAF</i>	<i>ERBB3</i>	<i>GNAS</i>	<i>MET</i>	<i>PIK3CA</i>	<i>STK11</i>
<i>BRCA1</i>	<i>ERBB4</i>	<i>HNF1A</i>	<i>MLH1</i>	<i>PIK3R1</i>	<i>TERT</i>
<i>BRCA2</i>	<i>EZH2</i>	<i>HRAS</i>	<i>MPL</i>	<i>PTCH1</i>	<i>TP53</i>
<i>CDH1</i>	<i>FBXW7</i>	<i>IDH1</i>	<i>MSH6</i>	<i>PTEN</i>	<i>TSC1</i>
<i>CDKN2A</i>	<i>FGFR1</i>	<i>IDH2</i>	<i>MTOR</i>	<i>PTPN11</i>	<i>VHL</i>
<i>CSF1R</i>	<i>FGFR2</i>	<i>JAK2</i>	<i>NF1</i>	<i>RB1</i>	

CleanPlex for MGI OncoZoom Cancer Hotspot Panel Specifications

Parameter	Specification
Enrichment Method	Multiplex PCR
Sequencing Platforms	DNBSEQ™
Number of Genes	65
Targets	2,900+ hotspots from 65 oncogenes and tumor suppressor genes
Cumulative Target Size	55,199 bp
Variant Types	SNVs, indels ^A
Number of Amplicons	601
Amplicon Size	125 – 175 bp (146 bp on average)
Number of Primer Pools	1
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	≥ 90%

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

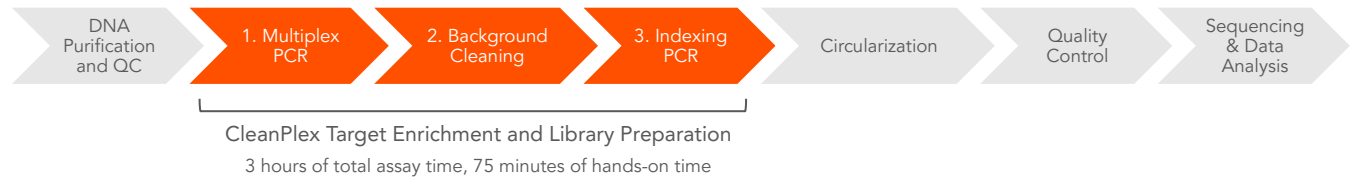
High Concordance Between Expected and Detected Variant Frequency

Gene	Variant	Expected Frequency	Observed Frequency	Standard Deviation
KRAS	G12D	1.3	1.3	0.29
EGFR	ΔE746 - A750	1.0	0.8	0.14
EGFR	V769 - D770insASV	1.0	0.9	0.12
EGFR	T790M	1.0	1.2	0.14
EGFR	L858R	1.0	0.9	0.14
NRAS	Q61K	1.3	1.5	0.14
NRAS	A59T	1.3	1.6	0.14
PIK3CA	E545K	1.3	1.3	0.39

Input DNA: 20 ng of Horizon Discovery HD780 Multiplex I cfDNA Reference Standard (n=3)

CleanPlex Single-Tube Workflow

The CleanPlex for MGI OncoZoom Cancer Hotspot Panel offers a simple 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, single-tube workflow to minimize sample loss and handling errors. Each step consists of a thermal cycling or incubation condition, followed by “with bead” purification using magnetic beads.



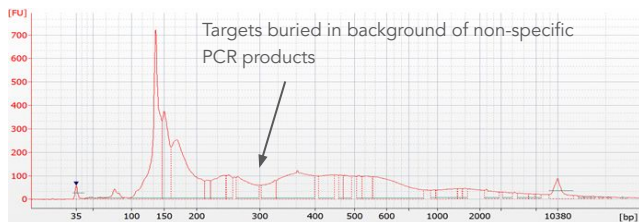
Sensitive Detection

The CleanPlex for MGI OncoZoom Cancer Hotspot Panel allows detection of somatic mutations down to 1% frequency using 10 ng of input DNA. With an average amplicon size of 146 bp, the panel is also compatible with degraded samples such as DNA isolated from FFPE tissues.

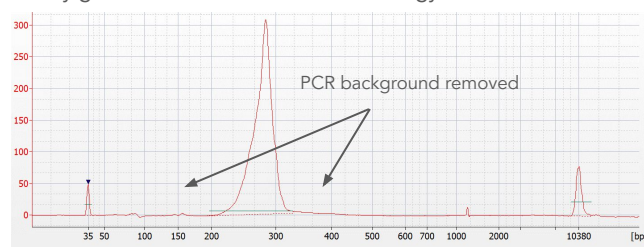
CleanPlex Background Cleaning Chemistry

The CleanPlex for MGI OncoZoom Cancer Hotspot 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



Learn More

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

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

Ordering Information

The CleanPlex for MGI OncoZoom Cancer Hotspot Panel contains CleanPlex for MGI Multiplex PCR Primers and CleanPlex Targeted Library Kit. CleanPlex for MGI Indexed PCR Primers and CleanMag® Magnetic Beads are ordered separately to complete the workflow from input DNA to sequencing-ready NGS libraries. For more information about CleanPlex for MGI Indexed PCR Primers, and additional product configurations please visit www.paragongenomics.com/store_mgi/

Product	SKU
CleanPlex® for MGI - CleanPlex® OncoZoom® Cancer Hotspot Panel (8 reactions)	317001
CleanPlex® for MGI - CleanPlex® OncoZoom® Cancer Hotspot Panel (96 reactions)	317002
CleanPlex® for MGI Plated Single-Indexed PCR Primers, (96 indexes, 96 Rxns)	318013
CleanPlex® for MGI Plated Single-Indexed PCR Primers (96 Indexes, 384 Rxns)	318014
CleanMag Magnetic Beads (1 mL)	718001
CleanMag Magnetic Beads (5 mL)	718002
CleanMag Magnetic Beads (60 mL)	718003

Paragon Genomics, Inc. | 5020 Brandin Court, FL 2, Fremont, CA 94538, USA | +1.650.822.7545
www.paragongenomics.com | techsupport@paragongenomics.com

© 2024 Paragon Genomics, Inc. All rights reserved. All trademarks are the property of Paragon Genomics, Inc. or their respective owners.

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

2 | PS5002-03

