ClearSeq AML

ClearSeq –NGS Cancer Reseach Panels
Next Generation Comprehensive Cancer Profiling

Benefits

Expert-identified and Content

- Designed in collaboration with Dr. Robert Ohgami and Dr. Daniel Arber at the Stanford Department of Pathology, Stanford University
- Targets **20 genes** relevant to AML

Premium Performance You Can Trust

- Provides comprehensive coverage of genetic regions
- From sample to report in less than 48 hours

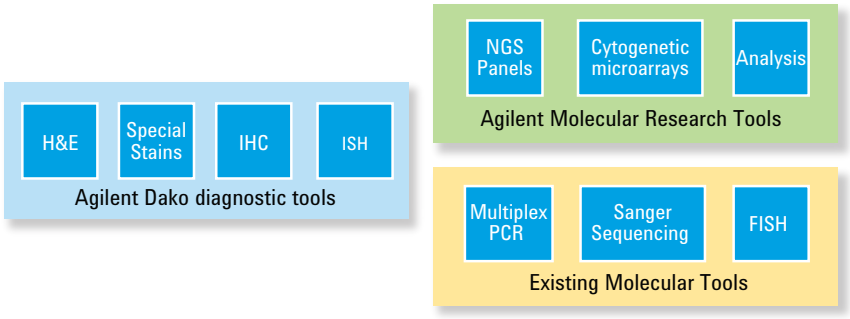
Easy to implement and to integrate into existing workflows

- From sample to mutation report in 3 simple steps using SureCall
- Obtain all reagents for sample preparation, QC and automation tools from one trusted partner

Agilent's NGS pathology solutions

Focused cancer gene panels enable you to analyze more mutations with higher accuracy and sensitivity compared to today. Specific panels of genes are being widely adopted to elucidate genomic alterations in cancer and as alternatives to first-generation sequencing techniques as well as replacing time-consuming multi-platform validation iterations.

Anatomical-to-Molecular Solutions



An end-to-end anatomical-to-molecular genomics portfolio that includes solutions from IHC for cancer diagnosis to NGS for cancer research.

ClearSeq AML developed together with clinical research thought leaders is a proven and reliable solution. NGS can be set up quickly and easily in a lab with comprehensive Agilent solutions for sample preparation, QC, and analysis. Our NGS cancer research solutions compliment existing workflows to provide comprehensive insights.

Acute myeloid leukemia (AML)

Acute myeloid leukemia (AML) is the most common myeloid neoplasm affecting adults and the role of chromosomal structural variations in its molecular pathogenesis have been well-established. In recent years, next generation sequencing has led to a revolution in the study of hematological malignancies and shown that indels and mutations play an essential part in the pathogenesis of AML. Genetic information coupled with standard morphological findings, provides a deeper characterization and classification of AML.

The ClearSeq AML, designed in collaboration with Dr. Robert Ohgami and Dr. Daniel Arber at the Stanford Department of Pathology, targets 20 genes found to be commonly mutated in AML. These genes are also implicated in other hematological malignancies such as MDS and MPN.

Easier, faster, more accurate and sensitive performance

- ClearSeq AML is superior in sensitivity and accuracy
- Efficient workflow enables you to identify all mutations with efficiency, accuracy and confidence
- ClearSeq AML can also be readily customized with adding or deleting genes using SureDesign

ClearSeq AML will be followed by the release of a series of cancer-type specific and all-cancer comprehensive panels. They will provide coverage of mutations and enable researchers to progress from sample to report in less than 48 hours.

Gene List (targeted exons)			
ASXL1	12	**MPL**	10
CSF3R	14, 17	**NPM1**	11
CBL	8, 9	**NRAS**	2, 3
CEBPA	1	**RUNX1**	3, 4, 8
DNMT3A	4, 8, 13, 15, 16, 18 19, 20, 22, 23	**SETBP1**	3
		SF3B1	13–15, 17
EZH2	8, 17, 18	**SRSF2**	1
FLT3	14, 20	**TET2**	3, 9, 10, 11
IDH1	4	**TP53**	5–8
IDH2	4	**U2AF1**	2, 6
JAK2	12, 14		

ClearSeq - NGS Gene Research Panels

5-step process compliments existing pathology tools

1 Order a Gene Panel

Order a catalog panel or design a gene panel

SureDesign Web Application

2 Extract DNA

Extract DNA from microdissected solid tissue or blood

DNA extraction kits – multiple vendors (Qiagen, Promega, Thermo and others)

3 Perform Target Enrichment

Enrich DNA for cancer gene targets prior to sequencing

4 Sequence

Sequence with a NGS instrument

ClearSeq NGS Cancer Research Panels are compatible with Illumina MiSeq & Ion Torrent.

If you don't have a sequencing instrument, send to an Agilent CSP

5 Analyze

Identify genetic variants, categorize, filter, report

SureCall Software

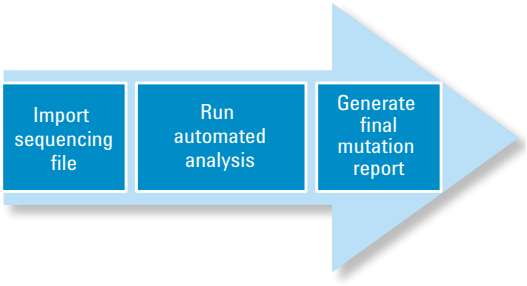
QC Steps

Evaluate DNA quality
Agilent HaloPlex FFPE QC protocol
Tapestation/Bioanalyzer Systems

Evaluate library quality
TapeStation/Bioanalyzer Systems

SureCall: Sample-to-Analysis Solution

The ClearSeq AML is ideally suited for analysis using SureCall, a NGS data analysis tool developed to address the critical bioinformatics needs of clinical researchers. Using pre-loaded cancer analysis workflows, go from sample to a mutation report containing all or known variants of interest within minutes, significantly reducing time-to-results. Together with robust sample QC and throughput scalability by automation, ClearSeq AML accelerates the confident detection of disease-associated variants.



Accelerate time-to-results with a simplified 3-step analysis workflow using SureCall. Obtain a report of categorized variants within minutes.

Known variants of interest

Agilent 2100 Bioanlayzer, 2200 Tapestation: Sample and Library QC

www.agilent.com/genomics/bioanalyzer

www.agilent.com/genomics/tapestation

SureDesign – Create Custom Panels in 3-Steps

www.agilent.com/genomics/suredesign

Product Numbers

Part Number	Description
G9913A	ClearSeq AML Illumina Sequencer 16 reactions
G9913B	ClearSeq AML Illumina Sequencer 16 reactions
G9914A	ClearSeq AML Ion Torrent Sequencer 96 reactions
G9914B	ClearSeq AML Ion Torrent Sequencer 96 reactions

Request more information at **www.Agilent.com/genomics** or call your Agilent service representative for a demo.

To learn more visit: **www.agilent.com/genomics/clearseq-panels**

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