NEO GENOMICS

Oncomine Myeloid Assay Services

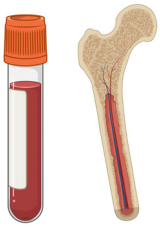
Myeloid disorders are difficult to analyze owing to complex aberrations across the genome, such as multiple mutations and chromosomal rearrangements. A traditional combination of FISH, qPCR and Sanger sequencing has low throughput and requires multiple samples, whereas whole exome sequencing or large NGS panels take longer turnaround time (TAT) and may have issues analyzing internal tandem duplications (ITDs) in key gene drivers.

Oncomine™ Myeloid Assay (OMA) v2 on the Genexus™ system is a focused panel for myeloid disorders that simultaneously detects 45 DNA genes and 30 RNA genes with a rapid and fully integrated workflow. Gene content on the panel covers relevant targets for all major myeloid disorders associated with acute myeloid leukemia (**AML**), myeloid dysplastic syndrome (**MDS**), myeloproliferative neoplasms (**MPN**), chronic myeloid leukemia (**CML**), chronic myelomonocytic leukemia (**CMML**) and juvenile myelomonocytic leukemia (**JMML**). The workflow at our CAP/CLIA lab automates nucleic acid extraction, library preparation, sequencing and reporting of the variants and gene fusions in as little as one day. Optimized primer design and chemistry of the assay enable accurate detection of ITDs in *FLT3*, SNVs in long homopolymer regions such as *CEBPA* and *ASXL1* and indels in challenging genes like *CALR*. Operated in our CAP/CLIA laboratory, OMA offers a rapid and robust solution to accurately assess myeloid malignancies and may be developed as a companion diagnostic assay.

Parameter	Specifications
Validation level	Research use only*
Validated samples	Blood and bone marrow samples
TAT	2 weeks**
Batch size	6 plus 2 controls
Limit of detection	5% VAF for SNV and indel, 20 copies for gene fusion

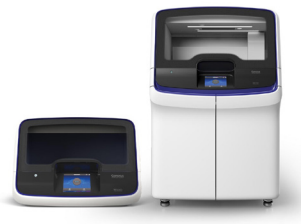
*Additional validation coming soon
**Real-time testing option in the future

① Specimens arrive at NeoGenomics



Fresh whole blood or bone marrow aspirate are accessioned at our global sites.

② Automated specimen to report workflow



Nucleic acid extraction and quantification, library preparation, sequencing and variant calling on the Genexus system.

③ Report review

Variants reviewed by our scientist and pathologist.

Oncomine Myeloid Assay gene targets

DNA SNV/indel (1,662 hotspots)					RNA gene fusion (779 fusion isoforms)			Expression genes	Expression control genes
ABL1	*DDX41*	*IKZF1*	*PHF6*	*SMC1A*	*ABL1*	*FUS*	*NTRK3*	*BAALC*	*EIF2B1*
ANKRD26	*DNMT3A*	*JAK2*	*PPM1D*	*SMC3*	*ALK*	*HMGA2*	*NUP98*	*NECOM*	*FBXW2*
ASXL1	*ETV6*	*KIT*	*PRPF8*	*SRSF2*	*BCL2*	*JAK2*	*NUP214*	*MYC*	*PSMB2*
BCOR	*EZH2*	*KRAS*	*PTPN11*	*STAG2*	*BRAF*	*KMT2A (MLL)*	*PDGFRA*	*SMC1A*	*PUM1*
BRAF	*FLT3*	*MPL*	*RB1*	*TET2*	*CCND1*	*MECOM*	*PDGFRB*	*WT1*	*TRIM27*
CALR	*GATA2*	*MYD88*	*RUNX1*	*TP53*	*CREBBP*	*MET*	*RARA*		
CBL	*HRAS*	*NF1*	*SETBP1*	*U2AF1*	*EGFR*	*MLLT3*	*RBM15*		
CEBPA	*IDH1*	*NPM1*	*SF3B1*	*WT1*	*ETV6*	*MLLT10*	*RUNX1*		
CSF3R	*IDH2*	*NRAS*	*SH2B3*	*ZRSR2*	*FGFR1*	*MYBL1*	*TCF3*		
					FGFR2	*MYH11*	*TFE3*		

About NeoGenomics Pharma Services

NeoGenomics Pharma Services unifies several innovative companies' scientific and medical leadership under one leading brand, offering one of the most comprehensive laboratory services menu available for biomarker testing supporting oncology clinical trials globally. We provide our clients with an unparalleled level of expertise, service, flexibility, and scalability. Additionally, we offer alternative business models and solutions across the continuum of development from pre-clinical research and development through commercialization.

To learn more about NeoGenomics Pharma Services, visit us online at neogenomics.com/pharma-services, call us at 866.776.5907 or email us at pharmaservices@neogenomics.com

NeoGenomics Laboratories is a specialized oncology reference laboratory providing the latest technologies, testing, partnership opportunities and interactive education to the oncology and pathology communities. We offer the complete spectrum of diagnostic services in molecular testing, FISH, cytogenetics, flow cytometry and immunohistochemistry through our worldwide network of CAP-accredited, CLIA-certified laboratories.

Committed to research as the means to improve patient care, we provide Pharma Services for pharmaceutical companies, in vitro diagnostic manufacturers and academic scientist-clinicians. We promote joint publications with our client physicians. NeoGenomics welcomes your inquiries for collaborations. Please contact us for more information.

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