Experience.

MPLN GENOMICS

Solid Tumor Next Generation Sequencing

Next Generation Sequencing (NGS) determines individual gene sequences within an individual's whole genome. This powerful technique can be used to identify key genes and hotspots that are highly actionable with respect to oncology. Compared to PCR amplicon methods or Sanger sequencing, NGS can assess multiple genes in a single assay. This reduces the amount of specimen required and thus minimizing the risk of sample exhaustion. The high sensitivity obtained with NGS detects down to 5% of DNA isolated from a tumor sample to enable accurate identification of rare variants in heterogeneous specimens.

NGS can identify genetic alterations driving tumor biology and behavior, drug sensitivity or resistance and disease prognosis, thus enabling the most appropriate, timely and safe use of therapeutics. Newly diagnosed patients, patients resistant to conventional therapy and patients presenting a complex diagnostic dilemma are prime beneficiaries of NGS.

NGS offers a rapid assessment of multiple targets simultaneously. In the current reimbursement reduction climate, the targeted hotspot mutation panel reduces cost and enhances benefits by only reporting clinically actionable mutations. All information provided is delivered in an easy to read comprehensive format.

Clinical Actionable Mutations by NGS

8GENE	LUNG	COLON	MELANO-MA	THYROID	OVARIAN	GIST	GLIOMA	RENAL
EGFR	EGFR	KRAS	BRAF	KRAS	KRAS	BRAF	BRAF	KIT
KRAS	KRAS	BRAF	NRAS	BRAF	BRAF	KIT	IDH1	PDGFRA
BRAF	BRAF	NRAS	KIT	NRAS		PDGFRA	IDH2	
NRAS	NRAS							
KIT								
PDGFRA								
IDH1								
IDH2								
FDA Approved Drugs	afatinib, erlotinib, gefitinib, cetuximab	cetuximab, panitumumab	dabrafenib, vemurafenib	vandetanib	platinum–taxane	imatinib, regorafebib	temozolomide	pazopanib
M 8 GENE NGS ‡ Order Codes	M LUNG NGS ‡	M COLON NGS ‡	M MELAN NGS ‡	M THYROID NGS*	M OVAR NGS*	M GIST NGS*	M GLIOMA NGS*	M RENAL NGS*

‡ available now, * coming soon

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Service Offerings

- Turnaround time 7-10 days
- Reimbursable codes for individual tumor type panels
- FISH and IHC complementary testing available

Reports

- Concise, interpretive, readable format
- Identification of potential treatments
- Available clinical trials by gene and variant type

Testing and Specimen Information

- Methodology: QIAGEN® Human Tumor Actionable Mutations Panel (GeneRead™ DNAseq Targeted Panels V2) for targeted enrichment, Illumina® MiSeq® V2 (300bp) sequencing on Illumina MiSeqDx® System
- Specimen –Formalin Fixed Paraffin Embedded tissue block or slides (3-5 slides for NGS at 5 micron minimum)
- Specimen Stability -Indefinite at ambient temperature (18-25°C)
- Specimen Shipment -Ambient temperature (18-25°C),In extreme hot weather, ship with a cool pack

Performance

- NGS targeted hotspot mutations
- Detects mutations, insertions and deletions
- Analytic Sensitivity >5% allele frequency
- Analytic Specificity >90% positive predictive value
- Accuracy >98%
- Precision >95% at >5% allele frequency
- NGS Depth of Coverage >500x

To Order

Visit www.mplnet.comand download a test requisition form or call MPLN Client Services at 1 800 932 2943 for more information about MPLN's Next Generation Sequencing Assays.

Billing & Payments

MPLN works with each client to set up the best method of payment for themselves and their patients. We accept Medicare, Medicaid, participating Insurance Providers, Client Billing and Self Pay. Patients have the option to pay their laboratory bill online.

About MPLN

MPLN is an ISO15189 certified, CAP accredited and CLIA high complexity certified laboratory specializing in Genomic Solutions and Molecular Anatomic Pathology testing for hematologic and solid tumor oncology. Headquartered in Maryville, Tennessee, MPLN delivers an incomparable and unique client experience by offering the most comprehensive services and innovative technologies in laboratory medicine. Providing an expanding menu of molecular diagnostics, specialty anatomic pathology, flow cytometry, and cytogenetic testing, MPLN is dedicated to providing superior diagnostic services to their clients in pathology groups, hospitals, medical laboratories and physician groups nationwide. MPLN specializes in oncology and women's health testing, and excels by utilizing highly qualified physicians, innovative technologies, all backed by unparalleled service to meet diagnostic challenges in a timely, cost-effective manner.