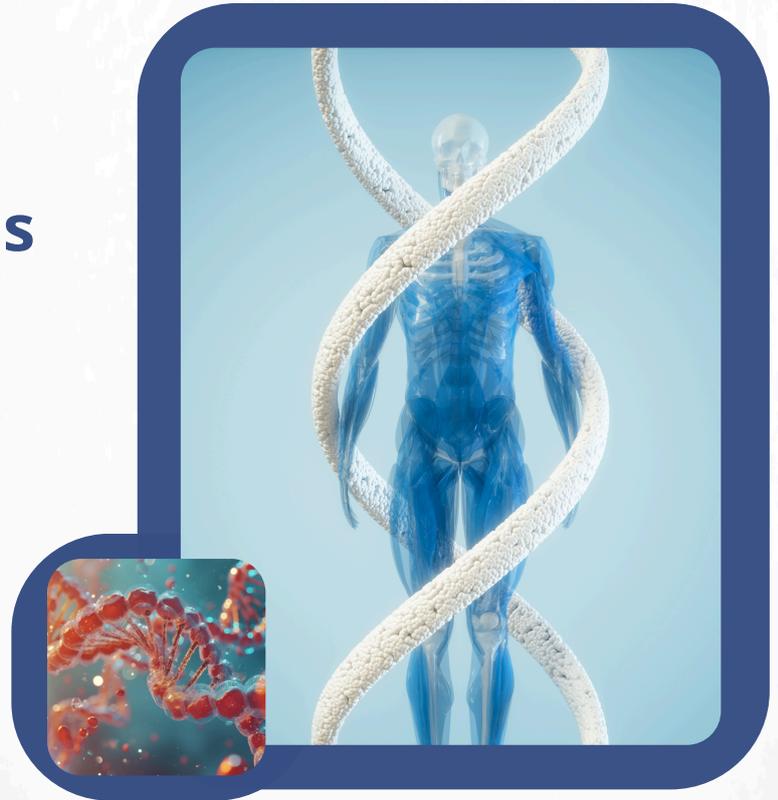




# Uncovering Mutations in Your DNA

& providing clinically actionable  
data for choice of the most optimal  
treatment

## BIOMARKER TESTING IN CANCER



Biomarkers are genes, proteins, and other substances which can provide information about an individual's cancer as each person has a unique pattern of biomarkers. They are also known as tumor markers. Some are cancer specific, whereas others may be associated with different cancer types. Some biomarkers provide diagnosis, some prognosis and some affect how certain cancer treatments work. Many different tumor markers have been characterized and are in clinical use.

### Commonly tested Cancer Biomarkers with Prognostic/Predictive importance

Test Code	Biomarker	Cancer	Importance/Therapy
OG016	IDH1 & 2	AML	Enasidenib, Ivosidenib, Vorasidenib
OG032	CEBPA	AML	CEBPA mutations are associated with favourable prognosis in the absence of associated cytogenetic abnormalities
OG033	NPM1	AML	Favourable prognosis in the absence of a FLT3 internal tandem duplication
OG034	FLT3	AML	Gilteritinib
OG019	PIK3CA	Breast Cancer	PI3K inhibitor; Alpelisib
OG035	HER2 mutations	Her2+ Breast Cancer	HER2-positive patients carrying S310F, S310Y, R678Q, D769H, or I767M mutations are good candidates for anti-HER2 therapy. L755S or D769Y mutation also confer benefits when receiving Neratinib or Afatinib. Mutations L755S, V842I, K753I, or D769Y do not seem to benefit from Trastuzumab. Resistance to Lapatinib in patients with L755S, V842I, and K753I mutations

Test Code	Biomarker	Cancer	Importance/Therapy
OG036	HER2 Amplification (+ve/ -ve)	Metastatic Breast Cancer	Her2 +ve -Aggressive cancer; Tucatinib (Tukysa), Trastuzumab (Herceptin) and Capecitabine (Xeloda)
OG021	ABL KINASE mutations	CML	Resistance to BCR-ABL tyrosine kinase inhibitor (TKIs) Imatinib
OG022	BCR/ABL	CML	Imatinib, Dasatinib, Nilotinib
OG015	UGTA1	CRC, Gastrointestinal cancers	Toxicity to Irinotecan therapy
OG014	DPYD	CRC, Head& Neck, Gastro-intestinal cancer	Toxicity to Fluorouracil/ 5FU therapy, capecitabine
OG037	NRAS	CRC, Melanoma, Haemopoitic malignancies, Lung Cancer	Trametinib
OG038	KIT	GIST, Melanoma	Imatinib, Sunitinib
OG016	IDH1 & 2	Glioblastoma	IDH mutations are diagnostic marker for differential diagnosis of low-grade glioma from reactive gliosis and other IDH-wild type tumour entities. First-line PCV in combination with radiotherapy
OG020	TPMT	Leukaemia, Lymphoma	Hematopoietic toxicity
OG017	EGFR	Lung	Positive response to tyrosine kinase inhibitors (TKIs): Afatinib (Gilotrif), Dacomitinib (Vizimpro), Erlotinib (Tarceva), Gefitinib (Iressa), Osimertinib (Tagrisso)
OG039	MET EXON 14 SKIPPING	Lung	MET inhibitor drug: Capmatinib or Tepotinib, TEPMETKO
OG010	NTRK FUSION	Lung	Entrectinib and Larotrectinib.
OG010	ALK FUSION	Lung	Tyrosine kinase inhibitor (TKI) or ALK-inhibitor (Crizotinib (Xalkori) Ceritinib (Zykadia) Alectinib (Alecensa) Brigatinib (Alunbrig) Lorlatinib (Lorbrena))
OG010	ROS1 FUSION	Lung	ROS1 tyrosine kinase inhibitor (TKI) or ROS1 inhibitor (crizotinib or entrectinib)
OG010	RET FUSION	Lung	Selpercatinib and pralsetinib (RET-inhibitors)
OG040	KRAS	Lung, CRC	<ol style="list-style-type: none"> <li>1. Sotorasib (FDA approved) in G12C mutation in NSCLC.</li> <li>2. In KRAS mutated CRC cases: poor response to EGFR-inhibitors &amp; patients with a KRAS mutation or unknown KRAS status should not receive EGFR-inhibitors like Cetuximab or Panitumumab.</li> <li>3. Patients with mutated or unknown KRAS or NRAS status should receive chemotherapy including FOLFOX, CAPOX, or FOLFIRI with or without bevacizumab</li> </ol>
OG018	BRAF	Lung, CRC, Melanoma	BRAF inhibitors: Dabrafenib, Encorafenib, Vemurafenib

Test Code	Biomarker	Cancer	Importance/Therapy
OG041	TERT	Melanoma	Longer survival in patients with melanoma receiving BRAF/MEK-targeted therapies
OG042	JAK2	Myeloproliferative cancer	Ruxolitinib
OG012	Homologous Recombination Repair (HRR) deficiency related mutations	Breast, Ovarian, Prostate	PARP inhibitors (PARPis) Olaparib, Rucaparib and Niraparib
OG006	Microsatellite Instability (MSI)	CRC	Immune checkpoint inhibitors
OG001/OG002	BRCA 1/ 2 mutations	Breast Cancer	Olaparib and Talazoparib
OG008	Tumour Mutation Load/Burden	NSCLC, urothelial carcinoma	Pembrolizumab

## OUR OTHER PANELS

We offer several cancer panels depending upon the needs of the Oncologists, these include..



BRCA 1 / 2 Gene Testing



Homologous Recombination Repair Gene Panel (>15 genes)



Inherited Cancer Panel (>140 genes)



Lung RNA fusion panel for detecting gene fusions in major driver genes



Comprehensive Cancer Panel



BRCA Extended Panel (>15 genes)



EGFR, NRAS single gene panels



Somatic panel with >400 genes



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