NCRO
National Clinical & Research Organisation

CLINICAL CANCER GENOMICS

Whole Exome Sequencing (WES) Analysis Services

PRECISION MEDICINE for Better Cancer Care

Comprehensive genomic analysis through Whole Exome Sequencing to identify clinically relevant genetic variants associated with cancer diagnosis, prognosis, treatment selection and hereditary cancer risk.

- Identify Cancer-Associated Variants
- Detect Hereditary Cancer Risk
- Advanced Bioinformatics Analysis
- Comprehensive Clinical Reporting

1. OUR WORKFLOW

1. **Sample Collection** — Patient blood or tissue samples are received.
2. **DNA Extraction & QC** — High-quality DNA is extracted and evaluated.
3. **Whole Exome Sequencing** — Sequencing of all protein-coding regions of the genome.
4. **Bioinformatics Analysis** — Advanced computational analysis to identify genetic variants.
5. **Clinical Interpretation** — Variant annotation and clinical significance assessment.
6. **Comprehensive Reporting** — Customized reports according to client requirements.

2. WHAT WE CAN IDENTIFY

CANCER-ASSOCIATED VARIANTS

- Single Nucleotide Variants (SNVs)
- Insertions & Deletions (Indels)
- Copy Number Variations (CNVs)
- Rare and Novel Variants

HEREDITARY CANCER RISK

Assessment of genes associated with inherited cancer susceptibility.

Examples include:

BRCA1 · BRCA2 · TP53 · PALB2 · ATM · CHEK2

and many more.

PRECISION ONCOLOGY INSIGHTS

- Clinically Relevant Mutations
- Actionable Genetic Findings
- Personalized Analysis
- Research-Based Interpretation

3. OUR CANCER GENOMIC SERVICES

- **Whole Exome Sequencing (WES)** — Comprehensive analysis of coding regions to identify clinically actionable variants.
- **Whole Genome Sequencing (WGS)** — Complete genomic profiling for SNVs, CNVs, structural variants & more.
- **Targeted Cancer Gene Panels** — High-depth sequencing of cancer-associated genes for accurate and cost-effective insights.
- **Hereditary Cancer Panels** — Evaluation of inherited cancer risk genes including BRCA1, BRCA2, TP53, etc.
- **Lung Cancer Panel** — Comprehensive genomic profiling for NSCLC and small cell lung cancer.
- **Colorectal Cancer Panel** — Detection of genomic alterations in colorectal cancer.
- **Hematological Malignancy Panel** — Genomic testing for leukemias, lymphomas & other blood cancers.
- **Pharmacogenomics (Oncology)** — Drug response analysis to optimize treatment and minimize toxicity.
- **Liquid Biopsy (ctDNA)** — Non-invasive detection of tumor mutations for monitoring & early detection.
- **Somatic & Germline Analysis** — Comprehensive profiling for somatic mutations and hereditary variants.

4. HOW TO SUBMIT YOUR SAMPLE

SAMPLE TYPE	RECOMMENDED FOR	SAMPLE REQUIREMENTS
WHOLE BLOOD (Germline Testing)	• Hereditary Cancer Panels • BRCA1/BRCA2 Testing • Whole Exome Sequencing (Germline)	• 3–5 mL peripheral blood • EDTA (Purple-top) tube • Store at 2–8°C • Ship within 48 hours • Do not freeze whole blood
FFPE TISSUE (Block Only)	• Somatic Variant Analysis • Solid Tumor Genomic Profiling • Cancer Gene Panels	• Submit FFPE block (clearly labeled) • Include pathology report if available
FRESH TISSUE	• Whole Exome Sequencing • Whole Genome Sequencing • Research Applications	• Fresh tumor tissue • Sterile container • Keep chilled (2–8°C) • Ship immediately • Avoid repeated freeze-thaw cycles
PURIFIED DNA	• Whole Exome Sequencing • Whole Genome Sequencing • Customized Bioinformatics Analysis	• ≥500 ng high-quality genomic DNA • A260/A280 ratio: 1.8–2.0 • Concentration ≥20 ng/µL • Submit in nuclease-free tube

SAMPLE TRANSPORT & COLLECTION

- Securely package samples in leak-proof containers.
- Include completed test request form with samples.
- Use cold packs when refrigeration is required.
- Ship via reliable courier and share tracking details.
- We can also collect samples from your lab.

Please notify NCRO before dispatch.

5. DELIVERABLES

COMPREHENSIVE GENETIC REPORT

- Variant Summary
- Clinical Significance
- ACMG Classification
- Literature-Supported Findings
- Risk Assessment Information
- Therapeutic Implications

6. WHY CHOOSE NCRO?

- Experienced Molecular Biology Team
- Advanced Bioinformatics Expertise
- High-Quality Data Analysis
- Confidential Data Handling
- Reliable Scientific Support
- Customized Solutions

KEY BENEFITS

- Accurate Variant Detection
- Personalized Treatment Decisions
- Early Diagnosis & Risk Assessment
- Improved Clinical Outcomes
- Evidence-Based Precision Medicine

FROM SAMPLE TO INSIGHT

Providing reliable genomic analysis solutions to support cancer research and precision medicine initiatives.

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