Exploring the power of cell-free DNA

cfDNA in Oncology

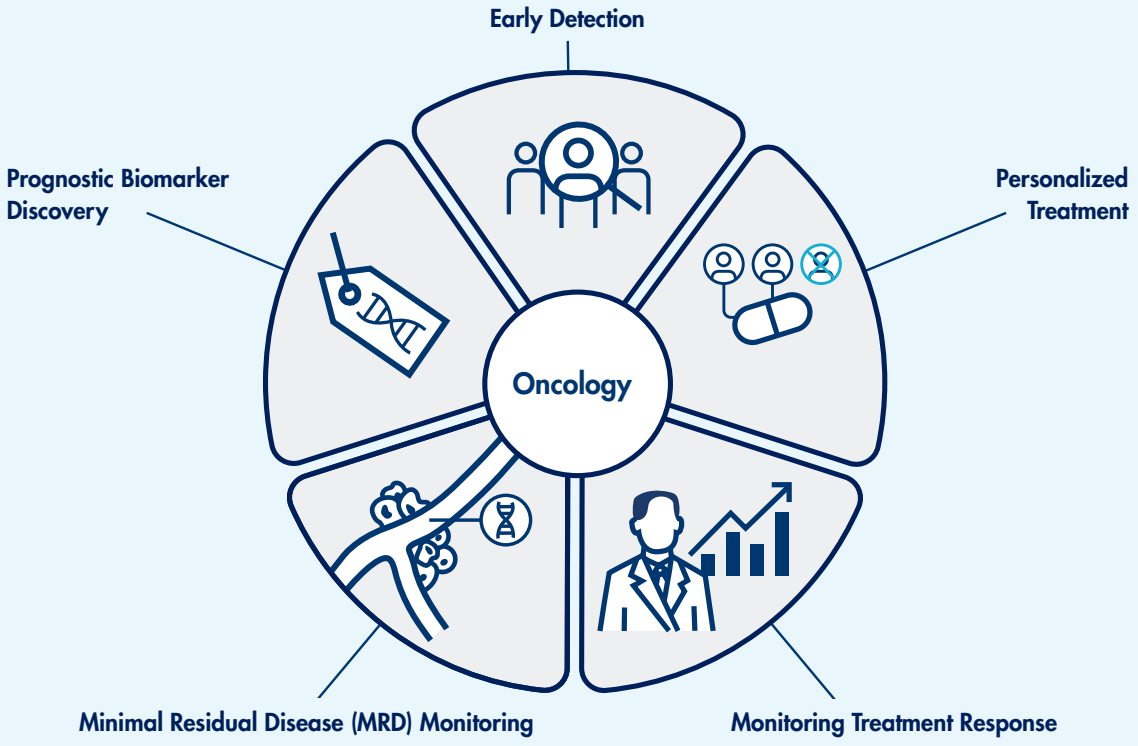
Cell-free DNA (cfDNA) is fragmented DNA released into the bloodstream from apoptotic or necrotic cells. Most cfDNA in blood comes from previously healthy cells, but in cancer patients, part of the cfDNA comes from tumor cells. Analysis of cfDNA can therefore offer a non-invasive means to detect and monitor cancer and can provide insights into tumor heterogeneity, evolution, and response to therapy. With its potential to enhance precision medicine and improve patient outcomes, the utilization of cfDNA in oncology represents a promising avenue for advancing cancer care.

Next Generation Sequencing (NGS)

High-throughput sequencing platforms such as NGS allow for comprehensive profiling of cfDNA, facilitating the detection of rare mutations, copy number variations, and methylation patters, characterization of tumor subclones, and monitoring of treatment response with high sensitivity and specificity. NGS enhances the accuracy and depth of cfDNA analysis, empowering clinicians and researchers to glean actionable insights from cfDNA data.

Benefits of cfDNA Analyses

Continued advancements in sequencing technology, bioinformatics algorithms, and multi-omic integration hold the key to unlocking the full potential of cfDNA analysis in oncology, ushering in an era of personalized and precise cancer care.



cfDNA Application Examples

Gene Therapy

By analyzing cell-free DNA (cfDNA) from blood, researchers can detect the presence of therapeutic transgenes and retrieve vector integration sites to monitor for potential adverse effects like off-target mutations or immune responses supporting personalized treatment adjustments.

Patient-Derived Organoids

By analyzing cfDNA released from organoids into the surrounding media, researchers can gain insights into genetic alterations, disease progression, and drug responses. This approach enables real-time monitoring of organoid cultures without disrupting their integrity.

Why choose GenomeScan?

Better. Faster. Affordable

Our partnerships with university medical centers and 15+ years of experience in the field let us stand out with our expertise. At the heart of our mission is to provide better, faster, and affordable sequencing solutions to pharma / biotech companies, clinicians and academic institutions.

Quality Standards

Our workflows adhere to ISO/IEC 17025, ISO15189 and GCLP guidelines and set a standard for the quality of our services.

Dutch Accreditation Council

ACCREDITED
ISO/IEC 17025
ACCREDITED
ISO 15189

How we stand out

Turnaround time

Challenging samples

FFPE and FF samples, liquid biopsy, partially degraded and ultra-low input

Bioinformatics

Proprietary data analysis pipelines, data visualization and reporting

Technologies

State-of-the-art technologies

Flexible support

Project design and management by experts

Contact us today!

Join the forefront of oncology research with GenomeScan's multi-omics solutions.
For inquiries, collaborations, and a detailed consultation, contact us at oncology@genomescan.nl

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