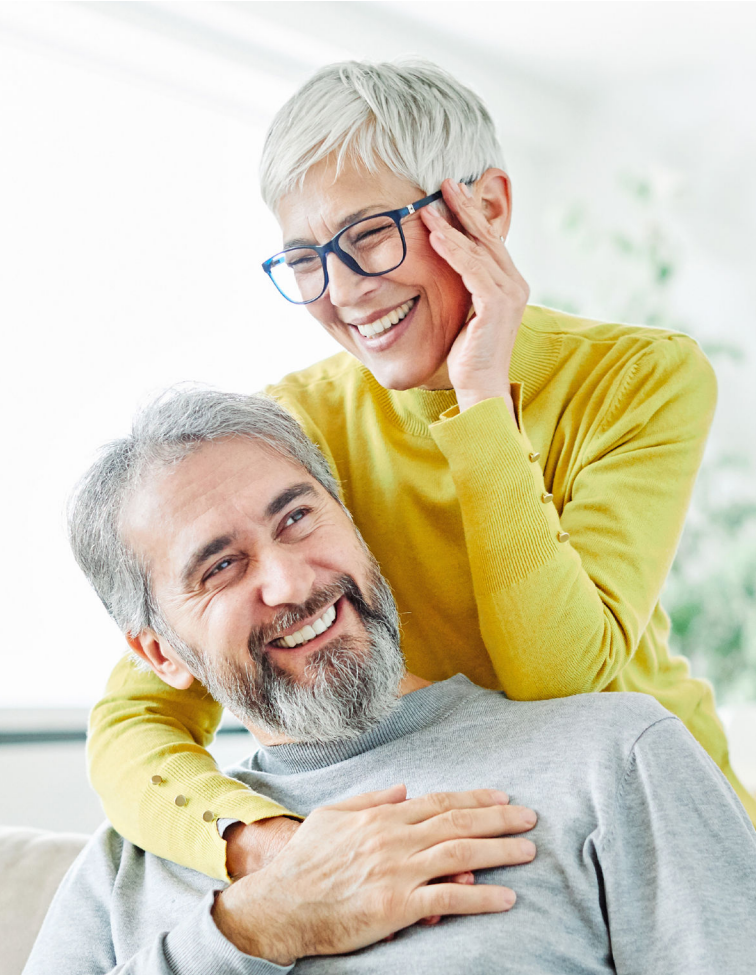
Tumor Diagnostics

CancerDetect®

Highly sensitive detection of actionable variants from liquid biopsy with low tumor content



CeGaT

Liquid Biopsy Analyses in Tumor Diseases

Liquid biopsy (LB) analysis is an optimal alternative testing method in cases where tumor tissue is unavailable, e.g., inoperable tumors or poor patient condition. It can be performed minimally invasively (without a further tumor biopsy) using a standard blood collection in special liquid biopsy tubes.

The analysis from liquid biopsy detects cell-free DNA (cfDNA) released from necrotic and apoptotic cells into the bloodstream. Thus, liquid biopsy analysis allows information about the tumor to be obtained and treatment to be targeted in patients where the tumor is not accessible or is difficult to access.

Since often only a fraction of the cell-free DNA originates from the tumor, we have developed a highly sensitive approach with CancerDetect®. This allows us to successfully perform LB analysis even if only 0.25 % of the cell-free DNA originates from the tumor. Within the LB analysis, we focus on detecting therapy-relevant, most frequently mutated hotspots in the tumor genome. Therefore, on the one hand, the results of LB analysis can play a major role in therapy decisions. On the other hand, LB can be used to monitor tumor patients.

Process

Receipt of liquid biopsy in the laboratory
(3 x 10 ml liquid biopsy cfDNA tubes with blood).

DNA isolation from the liquid biopsy sample and sequencing.

Detection and identification of therapy-relevant mutations by bioinformatic analysis of the sequencing data.

Interpretation and discussion of the results by our interdisciplinary team.

Summary of the results in a comprehensive medical report.

The Benefits of CancerDetect®

- The highly sensitive liquid biopsy panel detects variants at a novel allele frequency (NAF) of 0.25 %. Thus, it detects even the smallest amounts of cell-free tumor DNA.
- CancerDetect® identifies variants in 36 genes that are known to be driver mutations and relevant to a broad range of tumor entities.
- Due to its simple, non-invasive, and repeatable sampling, it is ideal for monitoring and early detection of recurrence.
- Due to the highly sensitive detection of tumor-specific biomarkers, the analysis of cell-free tumor DNA can be used to monitor tumor dynamics in real-time and to intervene or adjust treatment if necessary (e.g., acquired resistance).
- The high coverage of 50,000 - 100,000x in the raw data enables the detection of therapy-relevant variants even with a low tumor content in the sample.

In a medical report, we report all relevant test results. This includes listing any clinically relevant variants and therapy options identified.

Our interdisciplinary team of scientists and physicians prepares and discusses each medical report. Like so, we ensure the highest quality.

For further information visit
www.cegat.com/cancerdetect

Patient Cases

Patient and indication:

- 42 years old, female, metastatic non-small cell lung cancer (NSCLC) with an *EGFR L858R* mutation in the primarius
- Relapse after initial response to afatinib treatment
- Recurrent tumor inoperable, no tumor biopsy possible

Primary finding:
The result of an analysis of cell-free DNA using a standard lung cancer panel remained negative.

CancerDetect®-finding:
Our CancerDetect® analysis revealed a 2 % tumor content in the liquid biopsy and detected known *EGFR L858R* mutation, as well as an additional *EGFR T790M* mutation. The *EGFR T790M* mutation represents one of the most common resistance mechanisms to tyrosine kinase inhibitors (TKIs) and typically occurs in NSCLC patients after first-line TKI treatment. In this patient, treatment was adjusted with the third-generation EGFR inhibitor osimertinib.

Are you interested?

We are delighted to hear from you.

Send us an email at **tumor@cegat.com** or reach us via phone at **+49 7071 565 44-55.** We will be happy to send you more information about our tumor diagnostics.

About Us

CeGaT is a global provider of genetic analyses for a wide range of medical, research, and pharmaceutical applications.

Founded 2009 in Tübingen, Germany, the company combines state-of-the-art sequencing technology with medical expertise – with the aim of identifying the genetic causes of diseases and supporting patient care. For researchers and pharmaceutical companies, CeGaT offers a broad portfolio of sequencing services and tumor analyses. CeGaT generates the data basis for clinical studies and medical innovations and drives science forward with its own insights.

The owner-managed company stands for independence, comprehensive personal customer service, and outstanding quality. CeGaT's laboratory is accredited according to CAP/CLIA, DIN EN ISO 15189, DIN EN ISO/IEC 17025, and thus meets the highest international standards. To obtain first-class results, all processes are carried out in-house under scientific supervision. We would be pleased to provide you with our award-winning service.

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Accredited by
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