LymphoVista & CancerVista

LIQOMICS analyzes circulating tumor DNA from a simple blood sample (liquid biopsy) to reliably detect minimal residual disease (MRD). This provides you with treatment-relevant information earlier – even before imaging reveals any changes.

LIQOMICS uses next-generation sequencing of circulating tumour DNA (ctDNA) from blood samples to detect and quantify MRD in lymphoma (**LymphoVista**) and solid tumour patients (**CancerVista**). Our tests provide genotyping and longitudinal ctDNA-MRD monitoring with a limit of detection in the range of 10^{-6}.
Our technology originated from translational research at the University Hospital Cologne and the German Hodgkin Study Group (GHSG). Key studies have been published in the Journal of Clinical Oncology, Blood, and Med, and presented at ASH-, EHA-meetings and ISHL.

Closing the diagnostic gap

Standard today

Tissue-Biopsy
- Risk: tumor profile bias
- Post-adjuvant, during relapse: burden for patient

Imaging (PET Scan)
- High detection limit: 10^9 cancer cells
- Risik of false positive results: e.g. inflammation
- Overall risk: Under- and overtreatment

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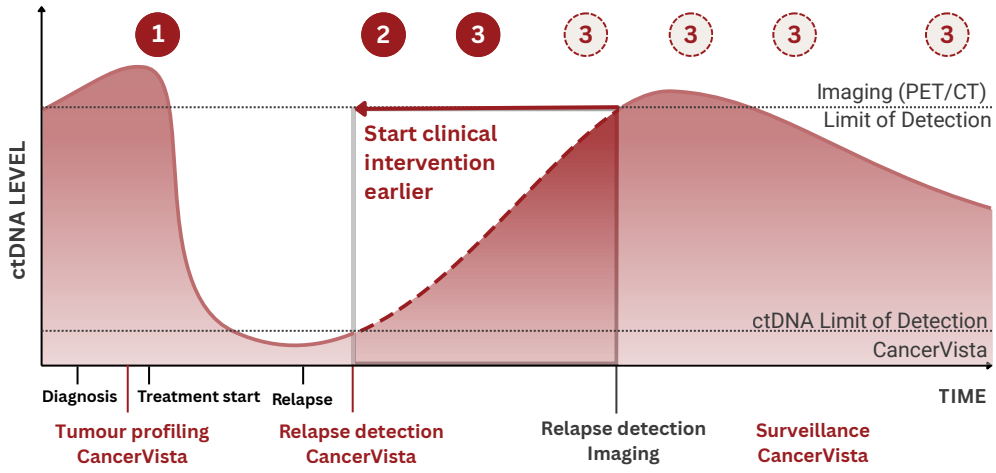
LymphoVista & CancerVista

Liquid biopsy – Complementary diagnostics

- Minimally invasive: Only a blood sample is required
- Assessment of the entire tumor profile
- NGS-based MRD-detection: significantly more sensitive and reliable than imaging

Clinical use scenarios



CancerVista clinical decision support

1. Pre-surgery: Tumour-Profiling
What therapy to choose?

2. Remission/Relapse: MRD Testing
Is there residual disease?
Is the patient's cancer likely to recur?
Does my patient need adjuvant therapy?

3. Surveillance: Serial MRD Testing
Does the treatment work?
Are there additional therapy options to consider?
Can treatment come to an end?

Which patients benefit from LymphoVista & CancerVista ctDNA-MRD Testing?

Any patient who:
- is undergoing cancer treatment,
- is in remission/has survived cancer and needs to be monitored,
- has been diagnosed with cancer, as a supplement to conventional biopsies and imaging procedures.

ctDNA-MRD Test Principle

Step 1 – Genotyping (Initial Test)

A blood or tissue sample, taken either before or at the start of treatment, is used to identify tumour mutations specific to the patient. This establishes an individualised molecular fingerprint that is used as the reference for all subsequent MRD measurements.

Step 2 – MRD monitoring

Follow-up blood samples are analysed to quantify residual disease levels by identifying previously detected mutations. Serial measurements allow treatment response to be tracked over time.

Test Procedure

Baseline Profiling

1. Sample collection
A primary blood sample or, alternatively, tissue taken before or at the start of treatment is dispatched to LIQOMICS.

2. Next Generation Sequencing (NGS)
DNA extraction and duplex NGS of germline (gDNA) and cell-free (cfDNA) DNA.

3. LIQOMICS Bioinformatics
- Exclusion of clonal haematopoiesis of indeterminate potential (CHIP).
- Identification of tumour-derived somatic variants.

4. Baseline report
Delivery of a patient-specific genomic tumour profile, actionable molecular targets and ctDNA load, plus an individual medical interpretation of relevant variants.

Longitudinal Monitoring

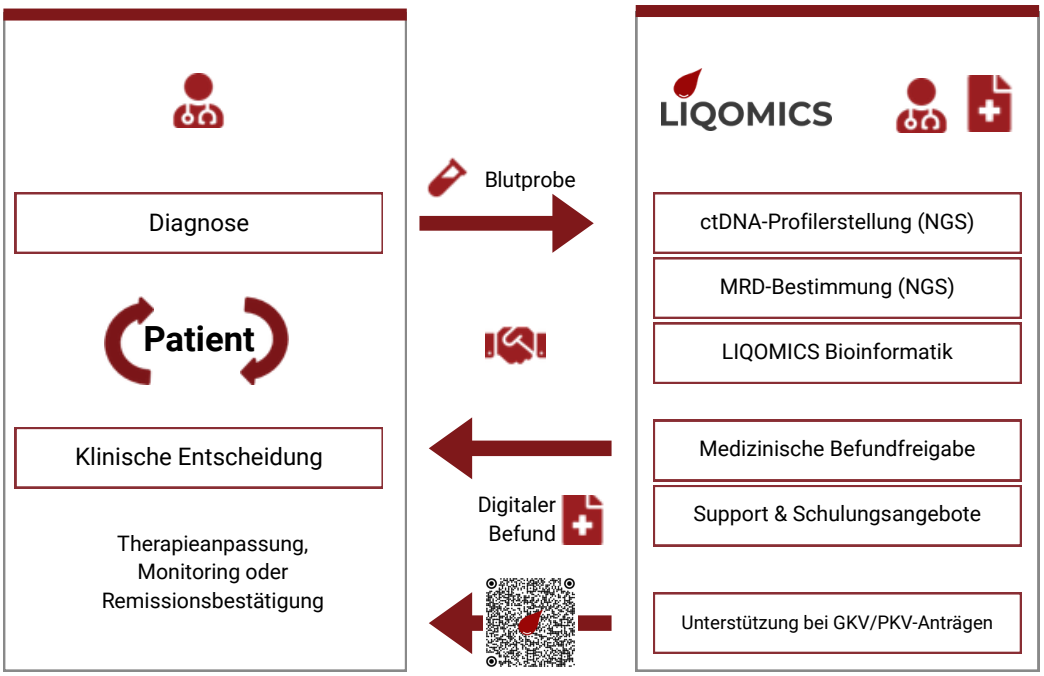
1. Follow-up sample
Serial blood samples collected at scheduled clinical intervals; dispatched to LIQOMICS.

2. cfDNA analysis by NGS
DNA extraction and duplex NGS of cfDNA to track the identified patient-specific tumour signature.

3. LIQOMICS Bioinformatics
- Calculation of MRD value from persistence of baseline tumour variants
- Genomic profiling of tumour

4. Monitoring Report
Quantitative MRD results are delivered for tracking treatment response, tumour progression or the early detection of molecular relapse, plus an individual medical interpretation of relevant variants.

Partnership Mode



Technical Specifications

LymphoVista

LBCL · Hodgkin · FL · MCL · ZNS-Lymphom · Burkitt

MRD-Nachweisgrenze	**6,69 × 10^{-6}**
Spezifität Varianten-Detektion	**99,99%**
Sensitivität Varianten-Detektion	**93,86%**
Probenmaterial	**20 ml Blut (cfDNA-Tubes)**
Bearbeitungszeit	**10–15 Werktage**
Leitlinienkonformität	**NCCN v1.2025 (LBCL)**

CancerVista

Alle soliden Tumore

MRD-Nachweisgrenze	**3,30 × 10^{-6}**
Spezifität Varianten-Detektion	**>99%**
Sensitivität Varianten-Detektion	**93,17%**
Probenmaterial	**20 ml Blut (cfDNA-Tubes)**
Bearbeitungszeit	**10–15 Werktage**
29 Krebsgene (alle Exone) & 584 Gene (ROIs)	

LIQOMICS Liquid Biopsy Befundung

- **Duplex-Sequenzierung**
- **CHIP-Filterung (PBMC)**
- **Positions-spezifische Fehlerkorrektur**
- **Kontext-basierte Fehlerkorrektur**

CanverVista Comprehensive Cancer Content

29 Core genes (all exons included)

ALK	**FGF2**	**NTRK1**
ATM	**HRAS**	**NTRK3**
BRAF	**KIT**	**PARP3**
BRCA1	**KRAS**	**PDGFRA**
BRCA2	**MET**	**PIK3CA**
CDKN2A	**MSH2**	**PMS2**
CDKN2B	**MSH6**	**PTEN**
CTNNB1	**MYD88**	**RET**
EGFR	**NOTCH1**	**TP53**
ERBB2	**NRAS**	

+

Mutation data-based Regions of Interest

584 genes

QR Code

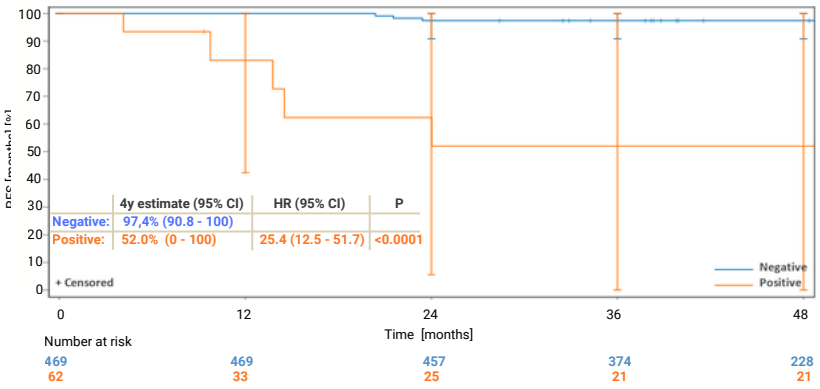
NCCN Guidelines (Version 1.2025; December 2024): LBCL
If the PET scan is positive at the end of initial treatment, a repeat biopsy should be considered. Instead of an invasive biopsy, a ctDNA-MRD test may be considered. If the result is negative, treatment can proceed as in the case of a negative PET scan, without the need for an invasive biopsy.

Clinical Evidence

The LymphoVista platform has been evaluated in multiple clinical studies involving various types of lymphoma. The following sections summarise the key findings that demonstrate the clinical benefits of using LymphoVista for ctDNA-based MRD assessment.

1. Hodgkin Lymphoma – LymphoVista HL

After just two cycles of treatment, LymphoVista HL could reliably distinguish between patients whose disease was responding well, with an extremely high likelihood of being cured, and those who were still at high risk of relapse. Around 95 out of 100 patients with a negative MRD result were free of disease progression after four years, regardless of what the PET scan showed. ctDNA-MRD could help inform treatment decisions early in the course of therapy.

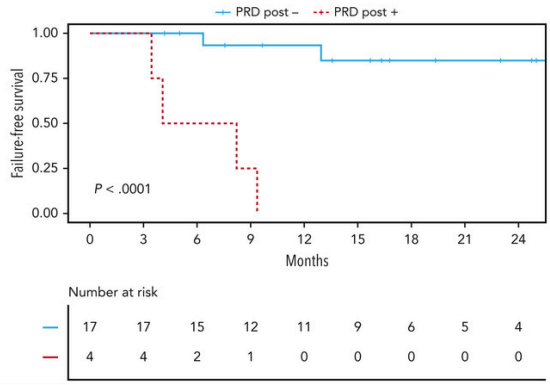


Study: Clinical validation in 72 patients from the GHSG HD21 trial (BrECADD vs. eBEACOPP in advanced-stage HL). Case-cohort design; median follow-up 50 months (presented at ASH 2024) [1;5] .

Key Findings: The 4-year progression-free survival (PFS) rate was 95.3% for patients who were MRD-negative after two cycles of chemotherapy, compared with 72.2% for MRD-positive patients (HR: 6.9; 95% CI: 4.5–10.6; p < 0.0001). The MRD-2 positivity rate in the weighted analysis was 18.5%. MRD status was a prognostic factor in all analysed subgroups, including those treated with BrECADD (HR 25.4) or eBEACOPP (HR 2.8), and was significant regardless of the PET-2 result (PET-2 positive: HR 3.5; PET-2 negative: HR 13.2).

2. CNS Lymphoma, Peripheral Residual Disease (PRD)– LymphoVista

CNS lymphomas are located in the brain, where repeated biopsies are difficult and conventional imaging (MRI) often fails to distinguish clearly between active tumour and treatment-related changes. LymphoVista can detect tumour-derived DNA in the bloodstream and identify patients who still have residual disease after treatment. All patients with residual disease experienced relapse, whereas those who cleared the disease from their blood had a substantially better prognosis.

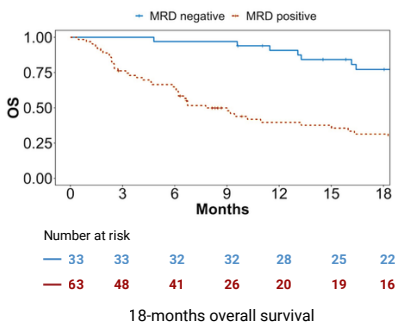


Study: 67 patients with primary or secondary CNS lymphoma. Development and independent validation of the Molecular Prognostic Index for CNSL (MOP-C) [3].

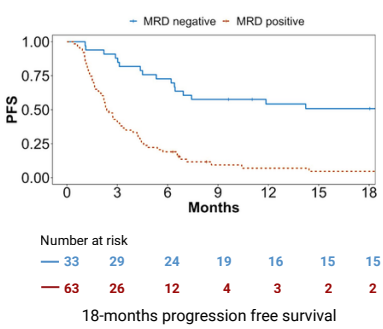
Key Findings: Patients with persistent peripheral residual disease (PRD) after induction treatment had a 2-year failure-free survival rate of 0%, compared to 84.9% for those who achieved PRD negativity (p < 0.0001). MOP-C (www.mop-c.com), a calculator that integrates clinical risk factors with ctDNA-derived molecular data, outperformed the established IELSG score as a prognostic tool (hazard ratio (HR) 6.60 vs. 2.64 per risk group; p < 0.0001). Tumour-agnostic genotyping from plasma was feasible in 83.6% of patients.

3. Relapsed/Refractory Large B-Cell Lymphoma — LymphoVista

In patients whose lymphoma returned after initial treatment, the blood test could distinguish between those responding to their new therapy and those who were not. Among patients with no detectable tumour DNA in their blood, around three out of four were still alive after 18 months, compared to one in three among those with detectable tumour DNA. The degree of tumour DNA reduction also provided additional information about how well the treatment was working.



18-months overall survival



18-months progression free survival

Study: 88 patients with relapsed or refractory large B-cell lymphoma (LBCL); 326 samples across 131 treatment lines. Serial ctDNA-MRD monitoring with LymphoVista (presented at EHA 2024) [4].

Key Findings: 18-months overall survival (OS) was 77% in MRD-negative patients versus 33% in MRD-positive patients (hazard ratio (HR): 4.61; 95% confidence interval (CI): 2.38–8.92; p < 0.0001). 18-month progression-free survival (PFS) was 51% in MRD-negative patients versus 5% in MRD-positive patients (HR: 4.32; 95% CI: 2.46–7.61; p < 0.0001). Quantitative MRD response (log-level reduction) enabled further differentiation of risk categories.

MRD-Driven Landmark Decisions In Lymphoma

Landmark	Clinical Role & Key Data	Decision Support
DIAGNOSIS	**Baseline Sample & Genotyping** Samples of blood or tumour tissue obtained before treatment enable the identification of tumour-specific mutations for longitudinal ctDNA-MRD tracking. Genotyping provides biological classification, risk stratification and a personalised molecular fingerprint.[1, 2]	Essential baseline for all lymphoma subtypes.
MID-THERAPY (INTERIM)	**Early Response Prediction** MRD negativity predicts favorable outcomes; enables therapy de-escalation. Persistent MRD-positivity predicts high failure risk. HL: 95% (MRD-negative) vs. 52.0% (MRD-positive); HR 25.4 (95% CI 12.5 - 51.7); $p < 0.0001$.[5]	MRD-positive: high risk; consider intensification. MRD-negative: favorable prognosis; consider de-escalation.
END OF TREATMENT	**Response Assessment & Relapse Risk Stratification** In LBCL, MRD positivity at EOT is a strong predictor of relapse. MRD negativity clarifies imaging if PET remains positive (NCCN Version 1.2025; December 2024).[4]. In HL: MRD clarifies ambiguous PET+ findings and is prognostic in PET-2+ patients.[2]. CNSL: ctDNA-based MRD monitoring clarifies ambiguous MRI results.[3]	MRD-positive at EOT: escalation or serial monitoring. MRD-negative at EOT: supports observation.
CONSOLIDATION / 2L THERAPY	**Selection Biomarker & Response Assessment** MRD identifies patients who might benefit from consolidation or second-line (2L) therapy, while ctDNA provides an early indication of efficacy in real time. r/r LBCL LymphoVista-based MRD: 18-month overall survival (OS) 77% vs. 33% (hazard ratio (HR) 4.61); 18-month progression-free survival (PFS) 51% vs. 5% (HR 4.32). [4] MRD negativity at any timepoint: OS HR 4.79; PFS HR 4.45 (both $p<0.01$). MRD can serve as a surrogate endpoint to enable faster evaluation of clinical trials.	All Lymphomas, Particularly r/r LBCL.
FOLLOW-UP / SURVEILLANCE	**Early Relapse Detection & Clonal Evolution Tracking** Serial ctDNA testing can detect relapse significantly earlier than imaging can, enabling intervention at a low disease burden. rrLBCL: Phylogenetic ctDNA analysis revealed diverse clonal and subclonal populations with distinct trajectories, identifying relapse-driving subclones. Integrating clonal dynamics could further enhance treatment strategies.[8]	MRD-positive: earlier intervention. Clonal tracking informs treatment strategy.

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MRD-Driven Landmark Decisions In Solid Tumours

Landmark	Clinical Role & Key Data	Decision Support
DIAGNOSIS	Baseline genotyping and identification of actionable molecular targets from blood or tissue establishes a patient-specific molecular fingerprint. Enables tumour characterisation, risk stratification, and targeted therapy selection. [1, 2, 3]	Essential baseline for all solid Tumours
POST-SURGERY	MRD positivity after curative-intent surgery identifies patients at elevated relapse risk who may benefit from adjuvant therapy. CRC DYNAMIC (NEJM 2022): HR 11.99 for recurrence; ctDNA-guidance safely reduces adjuvant chemotherapy. [2] Bladder IMvigor011 (NEJM 2025): ctDNA-guided immunotherapy improves DFS and OS. HR >10. [1]	MRD-positive: adjuvant therapy. MRD-negative: consider observation; spare unnecessary treatment.
END OF TREATMENT	MRD positivity at EOT is a strong predictor of relapse across solid tumour types. MRD negativity confirms molecular remission. NSCLC meta-analysis (30 studies): HR 11.19 PFS, HR 6.34 OS for ctDNA-positive patients. [3] Head & neck (MAESTRO): HR 27.4 for event-free survival; 7-month lead time. [4]	MRD-positive at EOT: escalation or serial monitoring. MRD-negative at EOT: supports observation.
TREATMENT MONITORING	Serial ctDNA measurements provide real-time efficacy signal. Decreasing ctDNA indicates response; persistent or rising ctDNA signals resistance. Applicable across all treatment modalities: chemotherapy, targeted therapy, immunotherapy, radiotherapy. [1, 2, 3]	All solid tumour types. Informs early treatment switching decisions.
FOLLOW-UP / SURVEILLANCE	Serial ctDNA detects molecular relapse significantly earlier than imaging — median lead times of 5–7 months across tumour types — enabling intervention at low disease burden. [3, 4] CancerVista additionally tracks clonal evolution and emerging resistance mutations over time.	MRD-positive: earlier intervention. Lead-time advantage vs. imaging.

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[3] Boukouris AE, Michaelidou K, Joosse SA et al. A comprehensive overview of minimal residual disease in the management of early-stage and locally advanced NSCLC. 2025.
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About LIQOMICS

LIQOMICS GmbH is a diagnostics company based in Cologne that provides highly sensitive in-house IVD tests for genotyping and monitoring minimal residual disease (MRD). The company developed the first validated circulating tumour DNA (ctDNA)-MRD platform for lymphomas in Europe.

Platforms: LymphoVista · CancerVista

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