Monitor Therapeutic Response with NeXT Personal® MRD Liquid Biopsy

Data presented from studies done in collaboration with the TRACERX consortium, UKE Hamburg, and Duke Cancer Institute, respectively.

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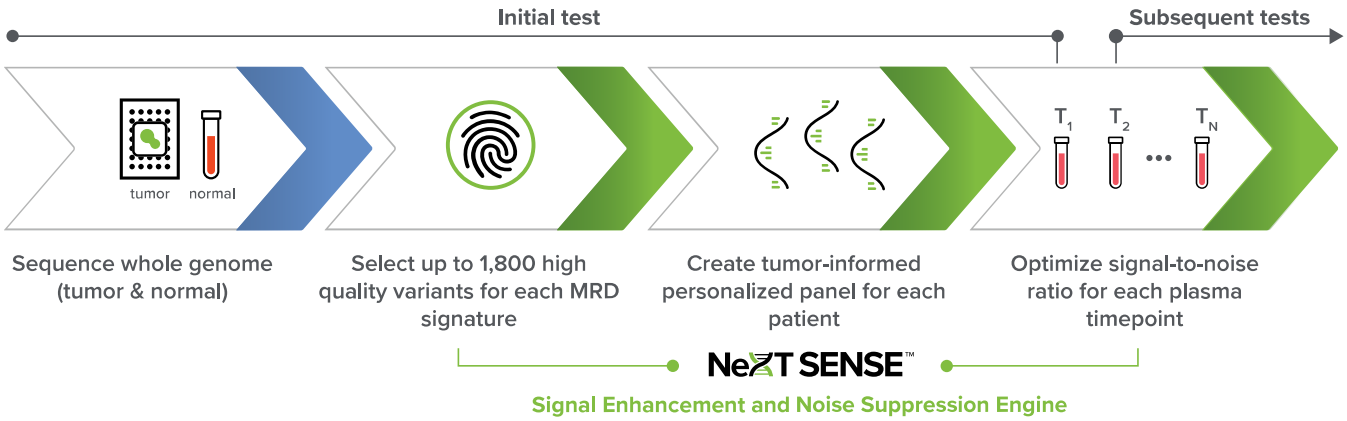
ATTTCTACA
TTCTACACCGCTG
TGTMRDCCA
CACACTCCATGCACT
ATTTCTACACCGCTGTGCTCC
AGGTATTTCTACTCCCACT
CGCTGTGCTCCCACT

Personalis®

NeXT Personal technology

NeXT Personal® is one of the most advanced, tumor-informed liquid biopsy assays that is designed to achieve 10x-100x the analytical sensitivity of previous generation assays through our patented Whole-Genome powered algorithm.

The NeXT Personal technology leverages whole genome sequencing and advanced noise suppression with **NeXT SENSE™ technology** to identify a unique genetic signature derived from a patient's tumor based on up to **~1,800 variants**.



Empower your clinical trials
NeXT Personal® offers:

Ultra-sensitivity you can trust

Reduces false negative rates with its analytical sensitivity down to ~1 PPM (LOD50)[1]

Uncompromised ultra-high specificity*

Reduces false positive detection, powered by our proprietary NeXT SENSE* technology

Comprehensive insights

Uncovers and tracks driver and resistance mutations simultaneously with MRD detection in a single assay

Broad inputs and applications

Allows you to work with a multitude of challenging samples types, including low-input samples

How could **MRD be implemented** in clinical trial response monitoring?

Track changes in ctDNA to determine durable responders and patients of high risk for relapse

See AACR Data in melanoma (page 6)
See ASCO Data in gastroesophageal cancer (page 7)

Monitor on treatment to assess response, switch therapy or escalate treatment.

See TRACERX data (page 4)
See AACR Data in melanoma (page 6)
See ASCO Data in gastroesophageal cancer (page 7)

Monitor post-surgery to determine high-risk patients for further treatment

See TRACERX data (page 4)

Monitoring **ctDNA post-surgery** could help to detect relapse earlier than imaging

Find high-risk patients for treatment escalation

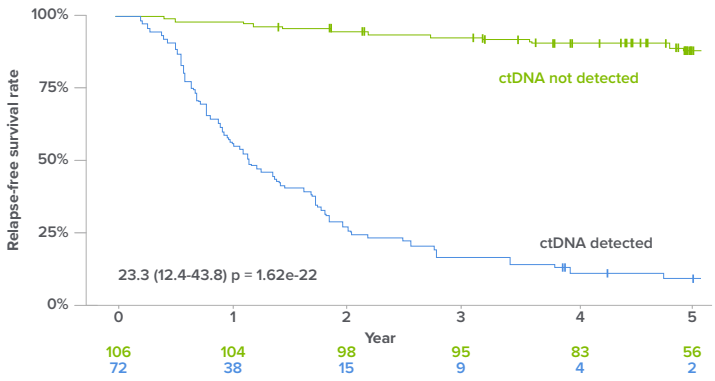
What is lung TRACERx? One of the most robust ctDNA studies for early-stage non-small cell lung cancer (NSCLC) with **170+ patients** in the Personalis cohort collected with **median 5 years of follow-up**, analyzed retrospectively.

Cancer types: adenocarcinoma (LUAD), non-adenocarcinoma (non-LUAD)

Stages: IA-IIIA

This study demonstrated that **serial testing after definitive treatment was highly predictive of clinical outcomes**. Serial testing could be used to potentially determine escalation, de-escalation, or change in treatment.[2]

Serial testing after surgery in NSCLC (LUAD and non-LUAD)



- Longitudinal MRD monitoring was strongly prognostic of clinical outcomes with high PPV (94%) and NPV (89%)
- Specificity 96%
- Testing frequency ranged from 1 to >10 time points per patient

  Standardized testing frequency could further improve sensitivity to relapse

See molecular residual disease (MRD) earlier with an ultra-sensitive test.[2]

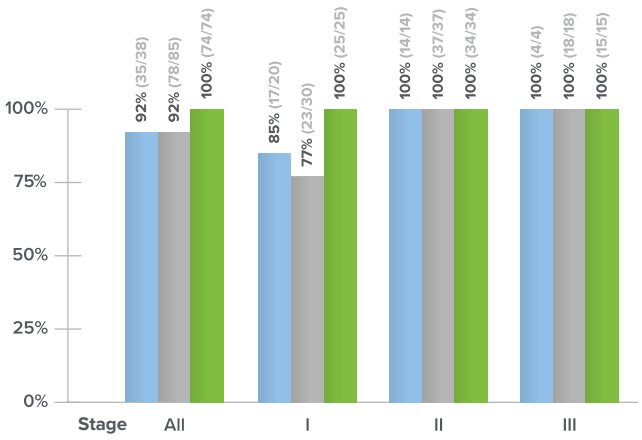
6 month lead time

Detect **ctDNA even in a low shedding tumor**

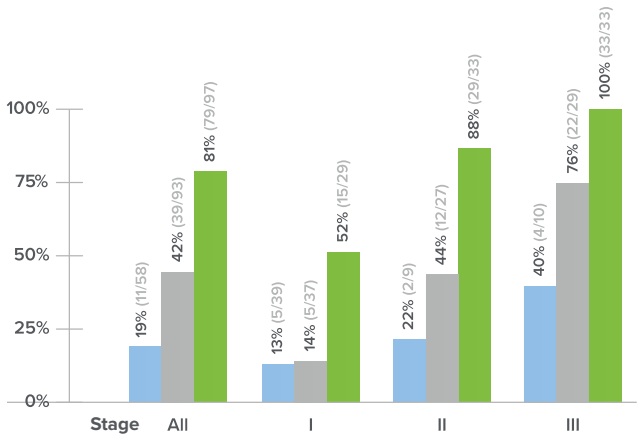
NeXT Personal detected tumor fractions missed by previous generation assays

NeXT Personal showed up to **4X higher sensitivity in baseline pre-surgery LUAD**, historically considered a low-shedding tumor, compared to non-Personalis, previous-generation assays and **100% detection in non-LUAD patients.**[2-5]

Detection of ctDNA in non-LUAD patients with disease (% of all patients)



Detection of ctDNA in LUAD patients with disease (% of all patients)



Abbosh *et al.* 2017[3] | Non-Personalis assay **Abbosh *et al.* 2023**[4] | Non-Personalis assay **NeXT Personal**[2] | Personalis assay

- NeXT Personal detected tumor fractions sub-80 PPM, missed by previous generation assays
- Even sub-80 PPM tumor fraction was predictive of poor outcomes

Tracking more variants enabled higher sensitivity **without compromising specificity**[2-5]

Study name	Limit of detection (LOD95)*	Variants tracked	Median lead time from ctDNA detection to radiographic recurrence**
Personalis **Black et al., 2023 ESMO presentation**[2]	4 PPM***	Up to 1800	**~ 6 months** (173 days)
Non-Personalis assay **Abbosh et al., 2023, Nature**[4]	~80 PPM***	Up to 200	**~ 4 months** (119 days)
Non-Personalis assay **Abbosh et al., 2017, Nature**[3]	~100 PPM***	Up to 22[6]	**~ 2 months** (70 days)

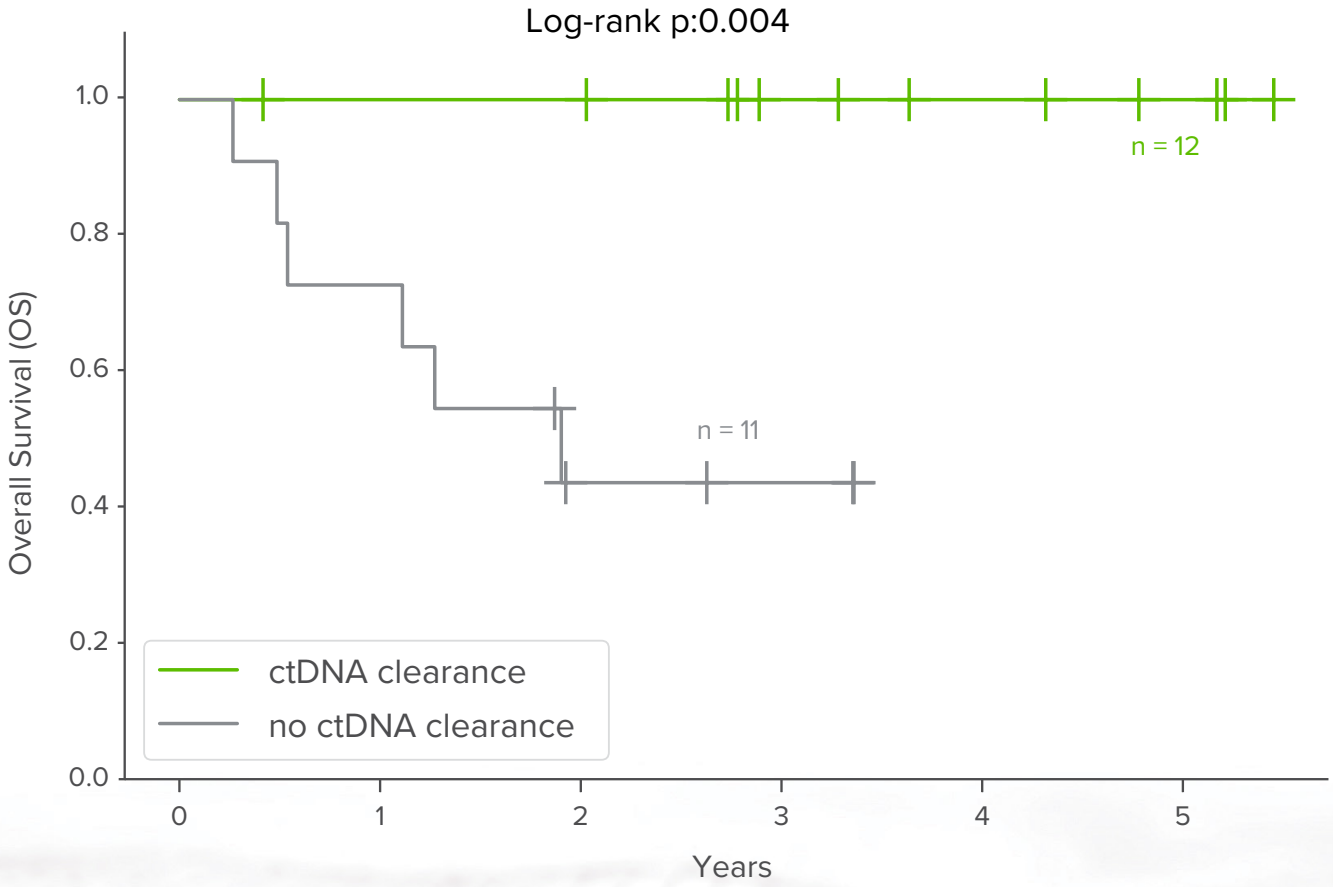
MRD clearance on immunotherapy associated with **durable response to treatment**[7]

*Data in **Melanoma**: UKE Hamburg*

In collaboration with University Cancer Center Hamburg, we profiled 23 melanoma patients receiving **immune checkpoint inhibitor (ICI)** therapy over several years using an ultra-sensitive, **tumor informed ctDNA platform**.[7]

Cancer Types: *Advanced-Stage Melanoma* ***Stages:*** *III-IV*

Attaining ctDNA clearance was associated with increased duration of overall survival (OS) in advanced-stage melanoma



→ Clearance may indicate durable response

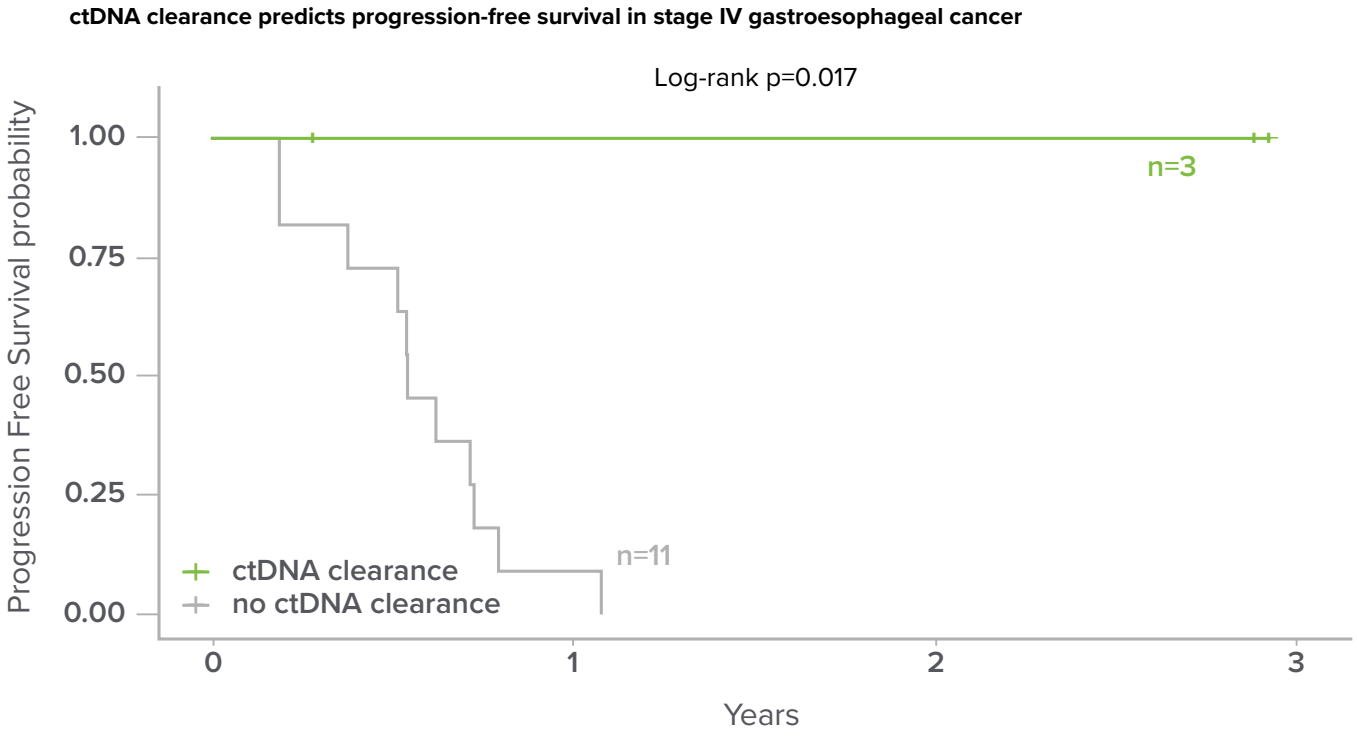
→ ctDNA positive patients could receive escalation in treatment

ctDNA clearance predicted progression-free **survival in stage IV gastroesophageal cancer**[8]

*Data in **Gastroesophageal cancer**: Duke Cancer Institute*

In this study with Duke Cancer Institute, we employed **NeXT Personal** for longitudinal disease **monitoring and tracking dynamic tumor evolution** in 18 pembrolizumab-treated gastroesophageal cancer patients.[8]

Cancer Types: *Gastroesophageal Cancer* ***Stages:*** *IV*



- Tumor molecule PPM dynamics were associated with patient response to immunotherapy.
- ctDNA clearance predicted progression-free survival
- ctDNA positive patients could receive escalation in treatment

Take the first step toward partnership with **Personalis to shape the future of cancer care.**

Learn more

Email **info@personalis.com**

Call **1-855-436-6634** (M-F 9am–5pm PST)

[1]Northcott, J. et al. Analytical Validation of NeXT Personal®, an Ultra-sensitive Personalized Circulating Tumor DNA Assay. medRxiv. Preprint. January 17, 2024. https://www.medrxiv.org/content/10.1101/2024.01.17.23299863v1

[2]Black, JRM, et al. An ultra-sensitive and specific ctDNA assay provides novel pre-operative disease stratification in early stage lung cancer. ESMO annual meeting. 2023

[3]Abbosh, C., et al. Phylogenetic ctDNA analysis depicts early-stage lung cancer evolution. Nature 545, 446-451 (2017)

[4]Abbosh, C. et al. Tracking early lung cancer metastatic dissemination in TRACERX using ctDNA. Nature 616, 553-562 (2023)

[5]For evaluations across Abbosh '17, Abbosh '23, and this study, while the patients were drawn from the TRACERX cohort, the specific patients analyzed may be different, which may lead to potential differences.

[6]Individual assay panels were designed to target a median of 18 SNVs (range, 10-22)

[7]C. Gebhardt, L. Keller, I. Heidrich, J. Koett, G. Geidel, D. J. Smit, R. Simon, S. W. Schneider, J. Pugh, C. W. Abbott, S. Boyle, R. O. Chen, K. Pantel. (2024, April 5-10). Ultra-sensitive ctDNA detection predicts response to immune checkpoint inhibition in advanced melanoma patients [Conference presentation]. AACR Annual Meeting 2024, San Dieco, CA, United States.

[8]Nixon, A, et al. (2023, June 2-6). Ultra-sensitive, tumor-informed ctDNA profiling in pembrolizumab-treated gastroesophageal cancer patients reveals longitudinal ctDNA kinetics. ASCO annual meeting, Chicago, IL, United States

This test is a laboratory developed test (LDT) and is performed in the CAP accredited, CLIA-certified Personalis Clinical Laboratory. The test was developed, and its performance characteristics determined by the Personalis Clinical Laboratory. It has not been cleared or approved by the United States Food and Drug Administration (FDA).

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PRO-1082-V1(V1.2)