NEO | RaDaR® ST

Detect HPV-negative head and neck cancer:

MRD detection from adjuvant monitoring through surveillance

NEO GENOMICS

Patients with head and neck squamous cell carcinoma are at risk of recurrence

85%
of HNCs
are HNSCC[1]

~1 out of 3 oropharyngeal HNSCC cases are HPV negative[2]

>80% of patients experience recurrence within 2 years of initial diagnosis[1]

There is a **55-70% 3-year overall survival** for patients with HPV-negative disease[3]

Survival rates, particularly in patients with locally advanced or recurrent disease, highlight the need for improved therapeutic strategies in HPV-negative HNSCC.

HNC = head and neck cancer; HNSCC = head and neck squamous cell carcinoma; HPV = human papillomavirus.

Current landscape for HNSCC treatment and recurrence monitoring

Patient detection of symptoms in isolation is not a reliable method of detection of recurrence.[4]

Patient-reported symptoms have a median sensitivity of only **47.3%** for detecting recurrence[4]

Highly sensitive MRD technology can detect evidence of tumor growth before signs of clinical progression[5,7]

HNC = head and neck cancer; MRD = molecular residual disease.

RaDaR® ST enables personalized treatment decisions for HPV-negative HNSCC patients

Key features of RaDaR ST

Tumor-informed detection:
Using the patient's individual tumor signature, identifies trace ctDNA that may persist after treatment or surgical resection

Proven performance:
Built for confident decision-making, with detection down to 1 ppm*

Clinical use continuum:
Detects post-surgical ctDNA and molecular recurrence, enabling earlier intervention and personalized treatment decisions

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Discover a highly sensitive, tumor-informed MRD technology that detects ctDNA long before imaging shows evidence of recurrence.

*Sensitivity demonstrated across four independent analytical and clinical validation studies, with detection down to 1 ppm under study-specific conditions. LOD95 at 11 ppm.[6]

ctDNA = circulating tumor DNA; HNSCC = head and neck squamous cell carcinoma; HPV = human papillomavirus; MRD = molecular residual disease; ppm = parts per million.

RaDaR ST is supported by clinical evidence

LIONESS is a critical study demonstrating the benefits of using RaDaR ST to inform risk stratification and identify recurrence in HPV-negative head and neck cancer.[6,8]

Confidence in identification of relapse:

RaDaR ST achieved **91.3%** clinical sensitivity in detecting relapse in HPV-negative HNSCC patients. ctDNA levels as low as 3.3 ppm were detected during the critical surveillance window.[7]

4-month intervention advantage:

RaDaR ST detected post-surgery ctDNA indicative of relapse a median of **119 days** before clinical confirmation.[7]

Detect low-level disease:

35% of positive samples detected by RaDaR ST would be missed by standard sensitivity MRD assays, leaving patients to present with more advanced, harder-to-treat disease.[5,7]

Critical adjuvant therapy insight:

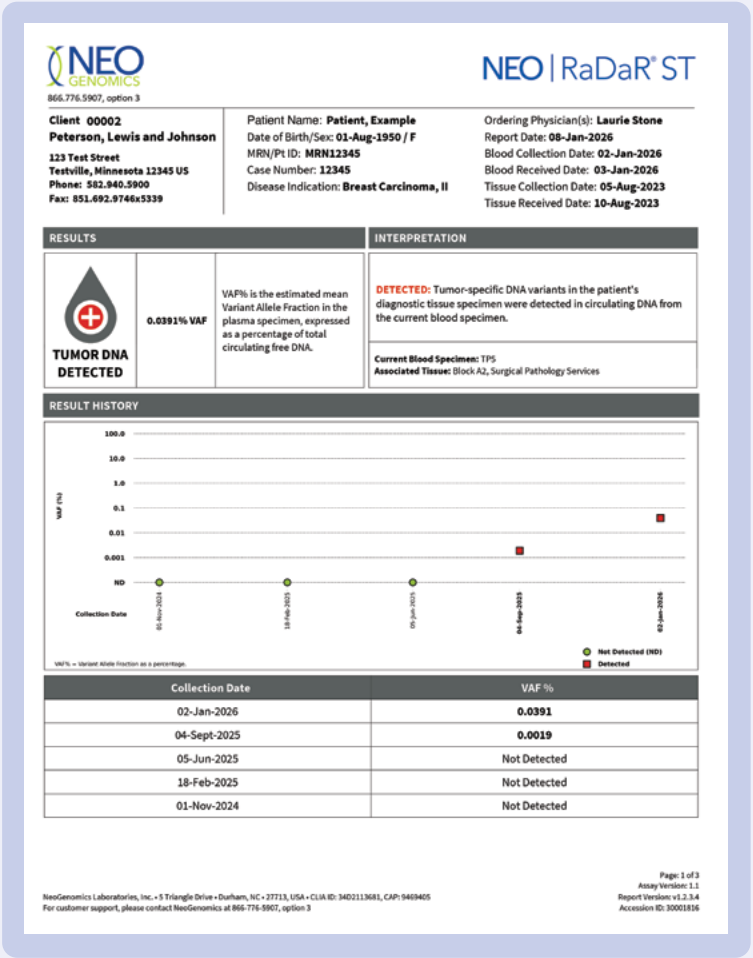
Post-surgical ctDNA detection is associated with shorter relapse-free survival compared to patients who had no ctDNA detected.[5,7]

Identifying postsurgical ctDNA or molecular recurrence may inform clinical management ahead of symptom development.[5,7]

ctDNA = circulating tumor DNA; HNSCC = head and neck squamous cell carcinoma; HPV = human papillomavirus; LIONESS = Liquid BIOpsy for MiNimal RESidual DiSease Detection in Head and Neck Squamous Cell Carcinoma; MRD = molecular residual disease; ppm = parts per million.

Deliver clear and actionable answers with RaDaR ST

Positive and negative results indicate two clear but distinct clinical pathways.



NEO GENOMICS
866.776.5907, option 3

NEO | RaDaR® ST

Client 00002
Peterson, Lewis and Johnson
123 Test Street
Testville, Minnesota 12345 US
Phone: 582.940.5900
Fax: 851.692.9746x5339

Patient Name: **Patient, Example**
Date of Birth/Sex: **01-Aug-1950 / F**
MRN/Pt ID: **MRN12345**
Case Number: **12345**
Disease Indication: **Breast Carcinoma, II**

Ordering Physician(s): **Laurie Stone**
Report Date: **08-Jan-2026**
Blood Collection Date: **02-Jan-2026**
Blood Received Date: **03-Jan-2026**
Tissue Collection Date: **05-Aug-2023**
Tissue Received Date: **10-Aug-2023**

RESULTS

TUMOR DNA DETECTED

0.0391% VAF

VAF% is the estimated mean Variant Allele Fraction in the plasma specimen, expressed as a percentage of total circulating free DNA.

INTERPRETATION

DETECTED: Tumor-specific DNA variants in the patient's diagnostic tissue specimen were detected in circulating DNA from the current blood specimen.

Current Blood Specimen: TP5
Associated Tissue: Block A2, Surgical Pathology Services

RESULT HISTORY

Collection Date	VAF %
02-Jan-2026	**0.0391**
04-Sept-2025	**0.0019**
05-Jun-2025	Not Detected
18-Feb-2025	Not Detected
01-Nov-2024	Not Detected

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Report Version: v1.2.3.4
Accession ID: 30001816

Positive

ctDNA detected. Results indicate residual tumor or a higher risk of recurrence. This may prompt further discussion about monitoring for relapse and treatment options.

Negative

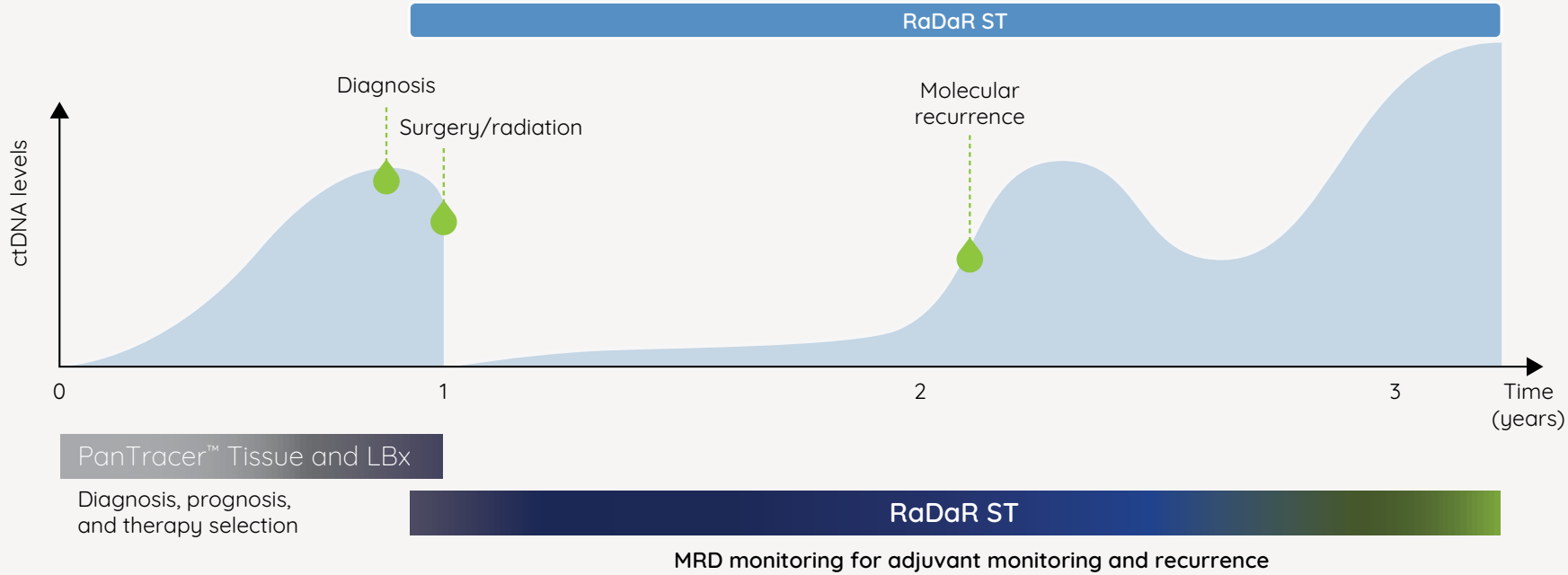
ctDNA not detected. Patient is likely cancer-free, or treatment is working. Additional diagnostic workup may be warranted.

Clear results with RaDaR ST inform the next clinical steps.

ctDNA = circulating tumor DNA.

The NeoGenomics portfolio supports HNSCC treatment across the care continuum

Broad tissue and liquid-based comprehensive genomic profiling (CGP) aligned with clinical guidelines, covering key biomarkers recommended for therapy selection and additional genomic insights complement MRD testing.



16 months

When used for surveillance, RaDaR ST can detect distant metastatic recurrence up to 4 months prior to imaging.[7]

Early detection, actionable insights. Delivering tomorrow's answers today.

CGP = comprehensive genomic profiling; HNSCC = head and neck squamous cell carcinoma; MRD, molecular residual disease.

To learn more about our head and neck cancer solution or to order a test, please visit **NeoGenomics.com**.

We pride ourselves on our unparalleled Client Services team.
If you have questions regarding test information, specimen requirements, turnaround times, test add-ons, or patient results, please email us at Client.Services@NeoGenomics.com or call 866.776.5907, option 3.

References

1. Haring CT, Kana LA, Dermody SM, et al. Patterns of recurrence in head and neck squamous cell carcinoma to inform personalized surveillance protocols. *Cancer*. 2023;129(18):2817-2827
2. Chaturvedi AK, Engels EA, et al., Human Papillomavirus and Rising Oropharyngeal Cancer Incidence in the United States, *J Clin Oncol* 2023; 41, 3081-3088
3. Fakhry C et al., Human Papillomavirus and Overall Survival After Progression of Oropharyngeal Squamous Cell Carcinoma, *J Clin Oncol* 2014; 32, 3365-3373(2014)
4. Hulse K, Hurley R, Lowit A, Maguire R, Paterson C, Douglas CM. Patient-reported symptoms in the detection of head and neck cancer recurrence: a systematic review. *Front Oncol*. 2025;15:1632592.
5. Flach S, Howarth K, Hackinger S, et al. Liquid BIOpsy for MiNimal RESidual DiSease Detection in Head and Neck Squamous Cell Carcinoma (LIONESS)—a personalised circulating tumour DNA analysis in head and neck squamous cell carcinoma. *Br J Cancer*. 2022;126(8):1186-1195.
6. NeoGenomics Laboratories, Inc. Data on File.
7. Flach, S., Pipinikas, C., Huberty, T. et al. Personalized ctDNA analysis for detection of residual disease and recurrence in surgically treated HNSCC patients. 2026. *npj Precis*. Onc. 10, 103

NeoGenomics, Inc. is a premier cancer diagnostics company specializing in cancer genetics testing and oncology data solutions. We offer one of the most comprehensive oncology-focused testing menus across the cancer continuum, serving oncologists, pathologists, hospital systems, academic centers, and pharmaceutical firms with innovative diagnostic and predictive testing to help them diagnose and treat cancer. Headquartered in Fort Myers, FL, NeoGenomics operates a network of CAP-accredited and CLIA-certified laboratories for full-service sample processing and analysis services throughout the US and a CAP-accredited full-service, sample-processing laboratory in Cambridge, England, United Kingdom.

NEO GENOMICS

9490 NeoGenomics Way
Fort Myers, FL 33912

Phn: 866.776.5907
Fax: 239.690.4237

NeoGenomics.com

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