

Clinical trial study summary

# Nonoperative Management of Mismatch Repair–Deficient Tumors<sup>1</sup>



## Immunotherapy alone might eliminate the need for surgery, chemotherapy, and radiation in many patients with dMMR tumors

This clinical trial demonstrated that neoadjuvant PD-1 blockade can help some rectal cancer patients with mismatch repair–deficient (dMMR) tumors avoid surgery. dMMR tumors, which have a high mutation burden, respond well to immune checkpoint blockade. This study evaluated PD-1 blockade in diverse early-stage dMMR tumors. Haystack MRD, a tumor-informed circulating tumor DNA (ctDNA) test, was used to help monitor treatment response throughout the study across diverse clinical applications.

### Patient outcomes

Achieved cCR<sup>a</sup> with immunotherapy alone

Avoided surgery and its life-altering side effects

OS<sup>a</sup> at median follow-up time of 21.5 months

#### Rectal cancers

**100%**

[95% CI, 92.7% - 100%]

**100%**

[95% CI, 92.7% - 100%]

**100%**

[95% CI, 92.7% - 100%]

#### Nonrectal cancers<sup>b</sup>

**65%**

[95% CI, 50.6% - 77.3%]

**61%**

[95% CI, 46.9% - 74.1%]

**100%**

[95% CI, 93.4% - 100%]

<sup>a</sup>cCR, clinical complete response; OS, overall survival

<sup>b</sup>Results from the exploratory (nonrectal cancers) cohort should not be used to draw conclusions about the performance of the test

## Findings using Haystack MRD for ctDNA monitoring

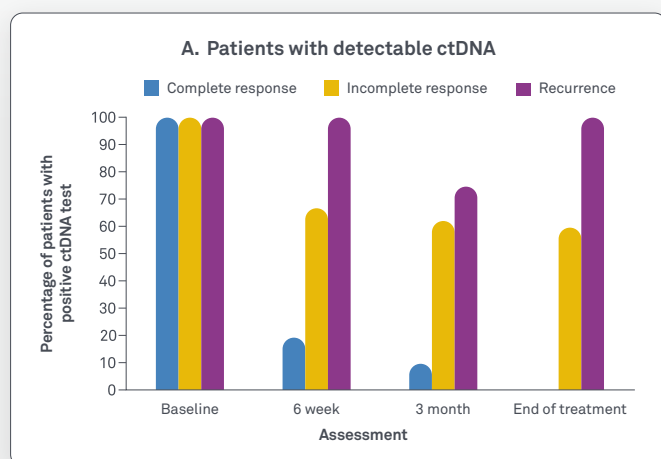


Figure recreated based on Cercek et al.<sup>1</sup>

## Authors state ctDNA is a “reliable liquid biopsy surrogate” for treatment response

**1.4**  
months

Median time Haystack MRD identified cCR vs >6 months with imaging

**100**  
percent

of patients with cCR were ctDNA-negative by the end of treatment and for the duration of follow-up



ctDNA levels showed high concordance with matched biopsies, supporting the reliability of ctDNA testing as a liquid biopsy surrogate

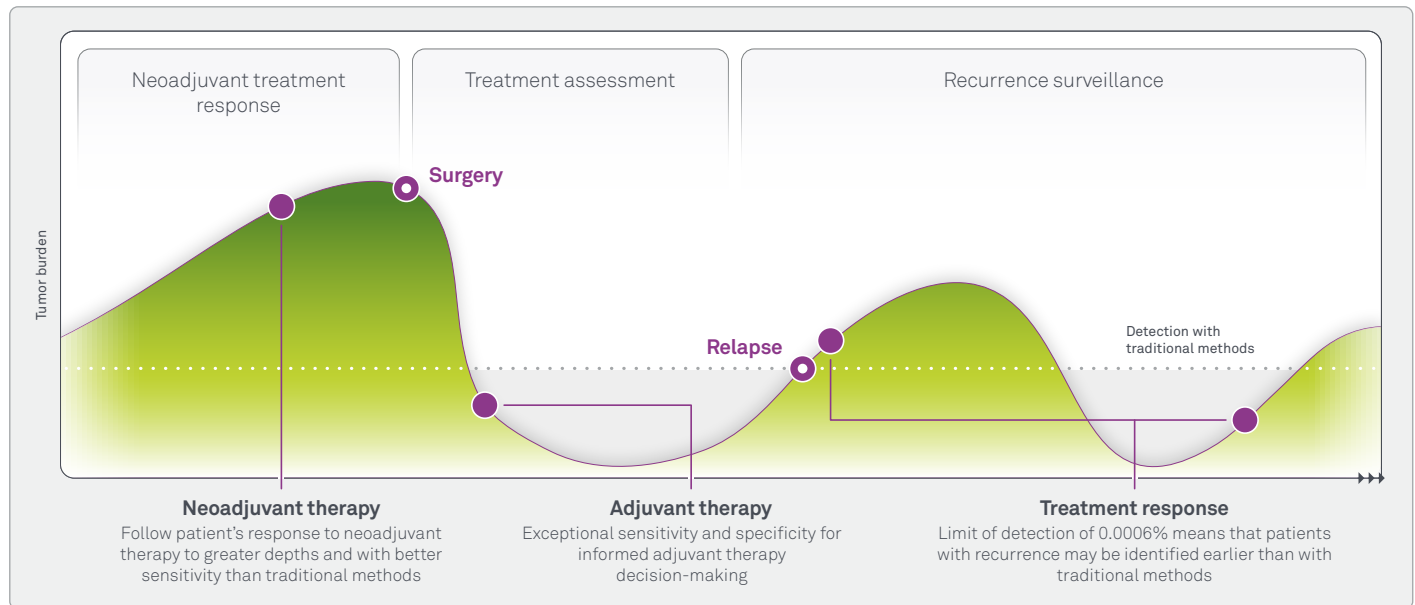
## Conclusions

Results from the study demonstrate the potential for immunotherapy in nonoperative management of some cancer types. Also, ctDNA detection is a valuable tool for assessing treatment response, offering a minimally invasive and highly sensitive approach to monitor treatment. Integrating ctDNA analysis into clinical practice could significantly enhance personalized treatment strategies and improve patient outcomes. See the publication in the *New England Journal of Medicine* for cohort details and other key information.

# Haystack MRD delivered performance with impact, demonstrating how exceptionally accurate MRD testing can help monitor treatment response<sup>1</sup>

## Haystack MRD®

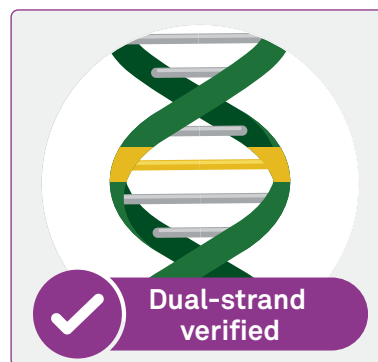
Based on technology built by pioneers of cancer genomics and further developed by Quest Diagnostics, Haystack MRD empowers you with exceptional clarity in clinical decision-making.



## Doubling down on confidence

Haystack MRD is an advanced tumor-informed MRD test that detects ctDNA in blood using proprietary technology that ensures each variant is detected on both DNA strands, effectively double-checking each variant to eliminate sequencing noise. This ensures that whether ctDNA is detected or not, you can trust the results to help you more fully understand your patient's disease status, delivering the confidence needed for more precise, informed clinical choices.

### Haystack MRD technology



### Traditional ctDNA sequencing technologies



## The power of Quest

Confident MRD results from a test that is part of Quest Diagnostics, which offers convenient testing locations nationwide and a comprehensive test menu to support your patient across the care continuum. From early detection screening to diagnosis, monitoring, and beyond, Quest's oncology tests provide critical insights that help power personalized care at every step.



Contact our dedicated support team for Haystack MRD by emailing [providers@haystackmrd.com](mailto:providers@haystackmrd.com) or calling **1.844.966.7050**.

<sup>1</sup> Cercek A, Foote MB, Rousseau B, et al. Nonoperative management of mismatch repair-deficient tumors. *N Engl J Med*. Published online 2025. doi:10.1056/nejmoa2404512

Image content features a model and is intended for illustrative purposes only.

This test was developed and its performance characteristics determined by the CLIA-certified Haystack Oncology laboratory and Quest Diagnostics laboratory. It has not been cleared or approved by the US Food and Drug Administration.

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