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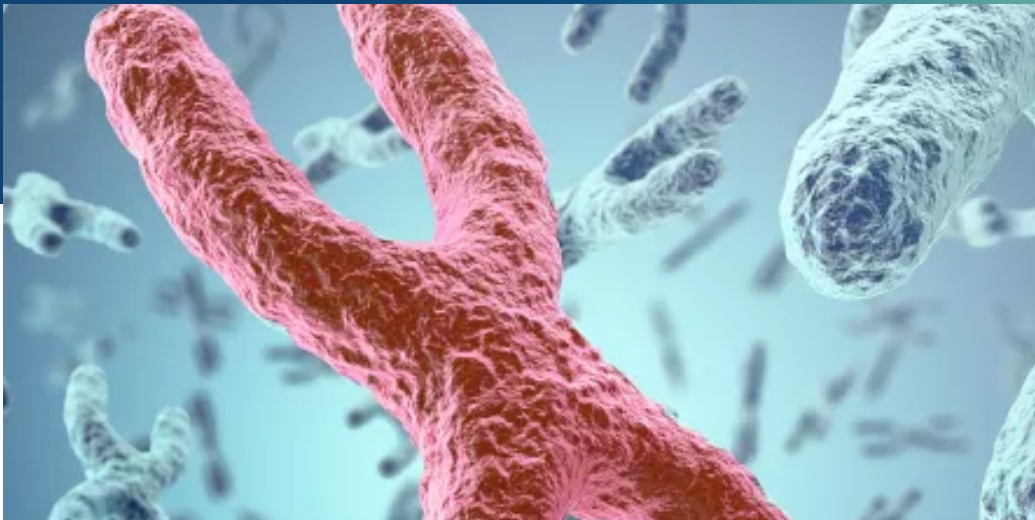
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Microsatellite instability high biomarker (MSI-H) and colorectal cancer



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What is an MSI-H Biomarker?

MSI-H and **MSS** biomarkers indicate the stability of the DNA in a tumor.

Colorectal cancer tumors are often referred to as having an “MSI status,” meaning they are described as either **MSI (microsatellite instable)** or **MSS (microsatellite stable)**. They cannot be both.

In normal cells, a process called **mismatch repair (MMR)** fixes errors (such as mutations) that can happen when DNA divides and makes a copy of itself.

If a cell’s MMR system isn’t working right, errors will build up and cause the DNA to become unstable. This is called microsatellite instability (MSI).

There are two kinds of tests for this biomarker. Depending on the type of test that is used, an abnormal result is called **microsatellite instability high (MSI-H)** or **mismatch repair deficient (dMMR)**. Both results mean the same thing.



What does an abnormal MSI-H level mean?

Approximately 15% of colorectal tumors are MSI-H and dMMR.

In most of these cases, the mutation was caused by a **non-hereditary** (somatic) gene abnormality in one of the MMR genes (MLH1, MSH2, MSH6, or PMS2) in a cancer cell.

In 3-5% of colorectal patients, dMMR and MSI-H are caused by [Lynch syndrome](#). In these patients, a **hereditary mutation** (germline mutation) in one of the four main MMR genes is passed from one generation to another. Individuals with Lynch syndrome are at higher risk of developing colorectal, endometrial (uterine), gastric, ovarian, and other cancers.



Who should have MSI-H testing?

MSI-H testing is recommended for **anyone who is diagnosed with colon or rectal cancer.**

If you test positive for the MSI-H or dMMR, you should also be tested for [Lynch Syndrome.](#)



What happens if I have an MSI-H biomarker?

Knowing the details of tumor biomarkers can help you and your doctor make decisions about personalized treatment with therapies tailored specifically to the characteristics of your tumor.

- Patients diagnosed with [Lynch Syndrome](#)  should talk with their family members about their diagnosis, encourage them to get tested for Lynch syndrome, and get screened often for colorectal cancer and other cancers, even if they do not have symptoms.
- MSI-H and dMMR are also **predictive biomarkers** that can predict a positive response to **immunotherapy**, but

not to fluorouracil-based chemotherapy.



What are the potential side effects of treatment?

Because **immunotherapy** affects your immune system, you may experience inflammation in different parts of your body. In addition, some of the most common side effects of immunotherapy are dryness, itching, and **rashes** of the skin, nausea, fatigue due to anemia or decrease in thyroid hormones, diarrhea or constipation, headaches, and high temperature.

It is unlikely that you will have all of these side effects, but you might have some of them. Contact your doctor immediately if you are experiencing severe symptoms.

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Krazati approved for previously treated KRASG12C colorectal cancer

The treatment option is for patients with KRASG12C-mutated locally advanced or metastatic colorectal cancer (CRC) who have received prior treatment with fluoropyrimidine-, oxaliplatin-, and irinotecan-based chemotherapy.

Last updated Jun 25, 2024



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Statistics suggested that Christy's odds of survival were grim, so she leaned into her faith and kept a positive outlook. She tried

to control what she could. And, critically, she received biomarker testing.

Last updated Apr 21, 2024



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