YOUR GUIDE IN THE FIGHT

Biomarkers

A FIGHT COLORECTAL CANCER® Resource
BIOMARKERS: A Game-Changer for Treatment Options

Just as astronomers using telescopes have discovered galaxies millions of miles away, scientists armed with microscopes have discovered that inside of cancer tumors lie a variety of different markers, called “biomarkers.”

Tumor biomarkers can inform both doctors and patients about what makes up a tumor or body fluids. **What this means to a patient is that their biomarkers can provide insight and information into their treatment because not all colorectal cancers are the same.**

Some colorectal cancers respond to immunotherapy, but not to chemotherapy, or vice versa. **All patients should ask about their tumor’s biomarkers. Knowing your tumor’s biomarkers provides game-changing information.**

Some biomarkers tell what kind of cancer you have; others tell if your tumor will respond well or poorly to certain treatments. Biomarkers can give clues about how your tumor may behave in the future, about dosing decisions, and they can also give an idea as to whether cancer is still circulating in your body once treatment ends. For example, knowing what side of the colon your cancer is on is a biomarker.

Knowing your tumor’s biomarkers is incredibly important when you’re planning treatment.

“I think the biomarker tests allowed me to have the best treatment and the least side effects for me, so that I could remain cancer-free for 10 years plus.”

**Pam Allen**

“Having my biomarkers tested gave me and my medical team a better understanding of my course of treatment. Knowledge is power in the fight against cancer.”

**Joe Bullock**

**PRE-SURGERY BIOMARKER TIP**

Before surgery, ask your doctor about biomarker testing and confirm your tumor tissue will be analyzed and a biomarker report will be provided to you.

**When you are newly diagnosed, it’s hard to remember everything your healthcare team is telling you. But this is the best time to ask about biomarkers and biomarker testing.**

Biomarker testing may be referred to as tumor, molecular, mutation, or genomic testing. Biomarker testing is **NOT the same as GENETIC testing for an inherited mutation or for inherited cancer risk.** Genetic testing is often a blood and/or saliva test that involves a genetic counseling team and outlines your family health history, not your tumor.

The actual biomarker test is performed on a small amount of tissue (obtained during a biopsy) from a patient’s tumor, or by drawing a blood sample. The tissue or blood sample is sent to a lab for testing. Once a biopsy or blood sample is collected, it is analyzed by a specialized laboratory. The laboratory supplies a report to your doctor based on information provided about your tumor.

Often, your doctor will request biomarker testing without you realizing it. So it’s always good to ask about your results before making treatment decisions.

**I’ve Already Had Surgery: Is It too Late to Find out My Biomarkers?**

If your surgery is behind you, and you’re unsure if you had biomarker testing, ask your doctor to pull up the pathology report from your tumor biopsy and review it for biomarkers.

Then be sure to have your doctor communicate their findings to you. If you don’t understand what the findings or report means, ask your doctor to explain in a way that you do understand.

**Don’t be embarrassed to ask questions. Asking questions is one of the best ways to advocate for yourself because you obtain answers, and gain knowledge and experience.**

**What If My Doctor Didn’t Test Me?**

If biomarker testing was not done on your tumor, the hospital where your surgery was performed should have a piece of your tumor in a tissue bank, and you can still request biomarker testing be performed on your tumor.

If you had one biomarker tested but need more tests run, you can use the saved tissue. If your tissue wasn’t saved, discuss next steps with your doctor.

**DON’T FORGET!**

Biomarker testing is **NOT the same as GENETIC testing for an inherited mutation or for inherited cancer risk.**
How Biomarker Testing Works

STEP 1 Request Testing
STEP 2 Biopsy
STEP 3 Testing
STEP 4 Results
STEP 5 Personalized Treatment (Based on your biomarkers)

Why Biomarker Testing Is Important

To recommend the best personal treatment path, it’s helpful for your treatment team to understand what’s causing your cancer on a molecular level. This starts with biomarker testing.

Your tumor’s biomarkers can show game-changing information about your cancer by showing DNA alterations in your tumor.

Biomarkers can give clues about how your tumor may behave in the future, how it may respond to different treatments, and give an idea as to whether cancer is still circulating in your body once treatment ends.

Get Resources

Knowledge is a powerful tool in your fight against colorectal cancer. Treatment planning for patients has been dramatically changed thanks to better understanding biomarkers. For more information, visit FightCRC.org/Biomarker or scan the QR code.

Paying for Testing

While it is important to know your biomarkers, it’s also important to know who will cover the cost of biomarker testing.

Some biomarker testing is covered by Medicare, and some states have enacted laws requiring testing to be covered by private insurance.

Knowing which test(s) your healthcare team would like to perform can help you prepare to speak to an insurance representative about coverage for your specific biomarker testing.

Questions to Ask Your Insurance:

1. Is prior authorization required for my biomarker test to be covered by insurance?
2. Are there any pre-approved biomarker tests that are covered by my insurance plan?
3. Do you require biomarker tests to be performed by specific companies or labs in order to be covered?

My BIOMARKER Passport

Biomarker testing may help you and your doctor choose a cancer treatment plan specifically designed for you. Knowing your biomarkers is especially important for metastatic colorectal cancer patients and for patients looking for clinical trials. Biomarker testing will help you obtain the responses to fill out the card, but if you need additional help with the questions on this card, ask your healthcare team.

Tumor Biomarker Information Card

Carrying this card will allow you to quickly reference important factors about your cancer when speaking to your medical team and searching for treatment options, such as clinical trials.

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<th>Last Name</th>
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Biomarker Testing Date
Cancer Type
Stage

Where my tumor tissue is stored

My biomarker and other important factors of my cancer are:

- KRAS
- NRAS
- ERAS wild-type
- NRAS wild-type
- BRAF
- BRAF V600E
- PIK3CA
- MSI-High
- Tumor Side: __L __R
- TRK Fusions (NTRK1, NTRK2, or NTRK3)
- HER2
- DPD
Biomarker test reports may have different layouts, formats, or organization depending on who runs your test. But all test reports should include the following information:

* Patient and doctor information
* Primary diagnosis
* Treatment (therapy) association/relevant treatments for each biomarker
* Relevant biomarkers
* Additional results (other biomarkers that may not be relevant to this cancer)

If you’re just now choosing treatment, use your newly acquired biomarker testing results to make a plan. There are specific treatments that can target colorectal cancer with certain biomarkers. These treatments are called “targeted therapy” and “immunotherapy,” and some biomarkers indicate which tumors are more or less likely to respond to a specific treatment or treatments.

For example, immunotherapy has been shown to be an effective treatment option with more positive outcomes for colorectal cancer patients with tumors that have microsatellite instability (often abbreviated MSI or MSI-H, where H refers to “High”) when compared with chemotherapy.

If biomarker testing reveals that you are positive for a certain biomarker (positive means your tumor has the marker), your doctor can choose treatments that work to attack the specific biomarker your tumor has. Alternatively, biomarker testing can also inform your doctor about which treatments to avoid, since some biomarkers do not respond to certain drugs.

For example, we know that for tumors with the KRAS biomarker, chemotherapy treatments such as cetuximab (Erbitux®) and panitumumab (Vectibix®) may not be effective.

For example KRAS wild-type ("wild-type" on your report), you may see the term “negative” for the mutation (or is there is no mutation (or is there is no mutation) in the biomarker.

Genomic Findings Detected are the biomarkers identified in your tumor.

FDA-Approved Therapeutic Treatment Options are the FDA-approved drugs that are known to be effective against your identified biomarkers.

Other Alterations and Biomarkers Identified are additional biomarkers identified in your tumor that may not have a known FDA-approved drug yet, as well as other important factors about your cancer that may play a role in making treatment decisions.
SEARCHING FOR Biomarker Testing?

Fight CRC’s Provider Finder is a digital tool that can help patients find and connect with oncologists, gastroenterologists, and surgeons with experience in biomarker testing. The Provider Finder suggests providers who are actively seeing and treating colorectal cancer patients around the country based on factors such as:

* geographic accessibility.
* biomarker testing experience.
* colorectal cancer patients volume.
* clinical trial experience.
* whether they have a strong referral network to support interdisciplinary care pathways.

Search at ProviderFinder.FightCRC.org

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