

# Understanding KRAS & RAS

## HOW BIOMARKER RESULTS MAY GUIDE COLORECTAL CANCER TREATMENT AND CLINICAL TRIALS



Learn More About  
Why Biomarkers Matter

### What do KRAS & RAS mean?

**RAS** is a family of genes that includes **KRAS** and **NRAS**. These genes help control cell growth.

A mutation can leave the growth signal stuck in the “on” position, helping cancer cells grow.

#### Know the exact result:

- **RAS wild-type:** no KRAS or NRAS mutations was found.
- **RAS-mutated:** a KRAS or NRAS mutation was found. The specific change matters (i.e., KRAS G12C).
- These tumor changes are usually acquired and are not the same as an inherited cancer-risk mutation.

### How can RAS affect treatment?

#### If your tumor is RAS wild-type

EGFR-targeted medicines such as cetuximab or panitumumab may be options for some people with metastatic colorectal cancer. Tumor location and other biomarkers also matter.

#### If your tumor has a RAS mutation

EGFR-targeted medicines alone generally do not work well. Treatment may include chemotherapy, medicines that target tumor blood vessels, other biomarker-matched options, or a clinical trial.

#### For KRAS G12C after prior chemotherapy

FDA-approved combinations include adagrasib + cetuximab and sotorasib + panitumumab for eligible patients with advanced or metastatic colorectal cancer.

### What treatment options are available?

Your **KRAS** and **NRAS** results help your care team choose treatments that may work best for you.

If your tumor is **RAS wild-type**, medicines that target EGFR, such as cetuximab or panitumumab, may be an option, sometimes with chemotherapy. These medicines generally do not work when a KRAS or NRAS mutation is present.

If your tumor has a **KRAS or NRAS mutation**, treatment may include chemotherapy, other targeted therapies, or a clinical trial. For some people with previously treated advanced colorectal cancer and a **KRAS G12C mutation**, targeted combinations such as **adagrasib with cetuximab** or **sotorasib with panitumumab** may be available.

Ask your care team to review your full biomarker report and discuss treatment options and clinical trials that match your specific results.

### Clinical trials can expand your options

**What is a clinical trial?** A clinical trial is a research study involving volunteers. It may test a new medicine, a new combination, or a new way to use an existing treatment. Joining is always your choice, and the study team should explain possible benefits, risks, visits, tests, and alternatives before you decide.



#### ASK EARLY:

Some trials are available before standard options are exhausted. Ask before starting or changing treatment.



#### CHECK ELIGIBILITY:

Stage, prior treatments, tumor location, test method, and overall health can affect whether a trial is a match.

### Questions to ask your care team:

- What are my exact KRAS and NRAS results?
- Was testing done on tumor tissue, blood, or both?
- How does my RAS result change my treatment choices?
- Is there a clinical trial I should consider now?

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This guide is for educational purposes only and not a substitute for professional medical advice. Always talk with your healthcare provider about your specific situation.

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The Colorectal Cancer Alliance is a national organization committed to ending colorectal cancer within our lifetime. We are your allies — a national network of passionate survivors, caregivers and advocates dedicated to helping you and your family navigate all aspects of the disease, from diagnosis and treatment to a lifetime of progression-free survival. We are a community of people eager to share experiences, address your concerns, and answer your questions. We understand the different stages of the colon cancer journey because we've been there. We are here for you when you need us because we believe tomorrow can't wait.



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