

KRAS

WHO SHOULD HAVE KRAS BIOMARKER TESTING?

If you have stage IV / metastatic colorectal cancer (bowel cancer), you should be tested for the KRAS biomarker. Stage IV or metastatic means that the cancer has spread to other organs or parts of the body.

If your medical team is considering EGFR inhibitor treatment, you should be tested for KRAS.

WHAT IS KRAS?

KRAS is a member of the RAS family of genes. These genes play an important role in the way that cell growth and cell survival are controlled. Mutations in these genes can cause cells to grow abnormally, becoming cancer. The KRAS gene mutations found in colorectal cancer are not hereditary.

HOW IS KRAS TESTED? HOW ARE THE RESULTS REPORTED?

The recommended method of testing KRAS is with a tumor (tumour) biopsy sample, either from the primary tumor or from a metastatic tumor. KRAS may also be tested in a blood sample. It may be tested individually, or as part of a multiple gene panel using next-generation sequencing (NGS).

Your KRAS biomarker result may be reported as “KRAS wild-type” or “KRAS WT” which means there is not a KRAS mutation in your cancer. If there is a KRAS mutation in your cancer, it will be reported as “KRAS mutant” or as a specific mutation, for example “KRAS G12C” or “KRAS G12V”.

WHAT DO MY KRAS RESULTS MEAN FOR ME? HOW DO THEY IMPACT MY TREATMENT?

If your KRAS is wild-type (no mutation)

- Patients with KRAS wild-type benefit from targeted treatment with EGFR inhibitors (for example cetuximab, panitumumab).

If your KRAS has a mutation

- KRAS mutations occur in approximately 40% of colorectal cancers.
- Colorectal cancers with KRAS mutations may be aggressive and have a higher risk of recurrence. Talk to your medical team about how you will be checked for recurrence during follow-up care.
- When KRAS mutations are present, treatment options include traditional chemotherapy combinations (for example FOLFOX, FOLFIRI, CAPOX). These are sometimes combined with bevacizumab, which is a targeted therapy.
- EGFR inhibitors are not effective against colorectal cancer with KRAS mutations and are not recommended.
- There are currently no approved therapies directly targeting KRAS mutations. However, there are ongoing clinical trials for treatments that are more effective against colorectal cancers with KRAS mutations. Talk to your medical team about whether you could benefit from a clinical trial.

Biomarker testing can give you and your medical team valuable knowledge about your cancer and help guide your treatment choices. For more information about colorectal cancer biomarkers, please visit knowyourbiomarker.org and talk to your medical team.