

K-ras gene

Your doctor has talked with you about what tests are needed to help determine which treatment works best with your type of colorectal cancer.

We are now able to identify certain markers or genes on cancer cells that tell us what treatment may be best. One such marker is the K-ras gene.

We need to know which type of K-ras gene your cancer has. This is because the genes that make up the tumours affects the type of treatment you may receive and how well you do with treatment. Once we know, then treatment can be specific to you.

What is K-ras?

K-ras (kay raz) is a gene that is present in all normal cells. It often changes in tumours, where it plays a key role in the growth of cancer.

There are 2 types of K-ras genes:

- **Wild type:** the gene stayed the same as in the normal cells of your body.
- **Mutant:** the gene has undergone changes, or mutation.

What does the K-ras gene do?

There are different types of proteins in normal tissues in our body. Epidermal Growth factor receptor (EGFr) is a protein that appears in normal tissues. There are also large numbers of EGFr proteins in cancer cells. When EGFr is triggered by certain hormones or chemicals in the blood, it acts like a switch turning on cancer growth. EGFr turns on the cancer growth through K-ras, which acts like a messenger to the cell.



When the K-ras gene is the wild type, the cancer growth message is sent from the EGFr signal to the cell. Some colorectal cancer treatments try to prevent the tumour from growing by blocking the EGFr proteins from stimulating the growth of cancer cells. These are called anti-EGFr treatments.

When the K-ras gene is the mutant type, the cancer growth message can still be sent regardless of EGFr so, anti EGFr treatments do not work.

What is a K-ras test?

A K-ras test finds out whether you have the wild type or mutant K-ras gene.

The test is done using tissue taken from an earlier biopsy or when the tumour was removed. You do not need more surgery or another procedure.

You do not have to pay. The results take about 2 to 3 weeks.

For more information

Canadian Cancer Society www.cancer.ca
– type in K-ras in the search box

<http://www.lab21.com/clinicallab/services/healthcareprofessionals/oncology/krasmutationtest.aspx>