

Research Saves Lives

Often, a person's breast cancer outcome can be predicted based on tumor size and how far the cancer has spread. In recent years, however, the development of **prognostic biomarker** tests has complemented, and in some cases improved, these traditional approaches.

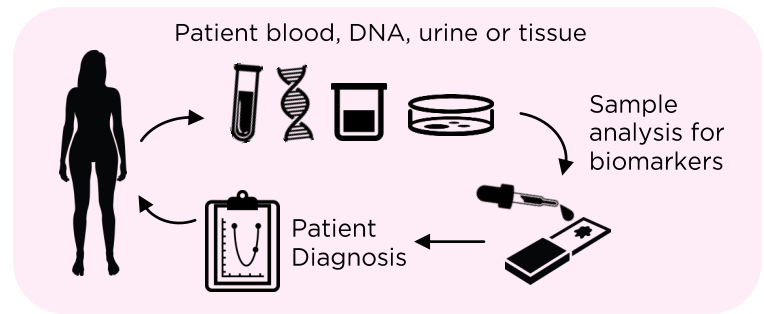
Biomarkers are an important part of precision medicine (also known as personalized medicine). Biomarkers are specific molecules found in the blood, other body fluids, or tissues that are a sign of a normal or abnormal process, or of a condition or disease. In the case of breast cancer, they are produced by the tumor or by the body's response to the tumor. Tests that screen for biomarkers, such as blood or urine tests, are becoming increasingly used by doctors to help diagnose and

understand each person's individual risk of disease.

While prognostic biomarkers do not predict whether a person will respond to a particular therapy, they may affect treatment choices. For example, information on risk of recurrence could help doctors decide whether chemotherapy is needed or not. A currently used example of such a prognostic biomarker is the Oncotype DX® test.



Learn more about precision medicine
<http://sgk.mn/1odO1J8>



Our Research Investment

More than **\$65 million** in over **130 research grants** and more than **25 clinical trials** focused on prognostic biomarkers

What We're Investigating



Discovering new prognostic biomarkers that may predict whether ductal carcinoma *in situ* (DCIS) will progress to invasive breast cancer



Developing biomarkers that are uniquely associated with poor outcomes in African-American patients



Identifying biomarkers, such as circulating tumor cells, that can be used to predict whether breast cancer will metastasize to the bone



Read more about Komen-funded research on circulating tumor cells by Dr. Shymala Maheswaran, in our Science Buzz series.

<http://sgk.mn/1hYpOUv>

Want to read more about our research on other types of biomarkers and precision medicine?



Download the other Fast Facts in this series
<http://sgk.mn/1xi7r82>

What We've Learned from Komen-funded research



Circulating tumor cells—tumor cells that have broken away from the tumor and entered the bloodstream—may be used to predict whether breast cancer will progress or metastasize.



Fluorescent biomarkers that can be imaged with MRI may be used to predict whether breast cancer will metastasize.



A gene involved in breast development and tumor progression may be used as a biomarker to predict which women with DCIS are at high risk for progressing to invasive breast cancer.



Learn more about breast cancer



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