2018 RESEARCH FAST FACTS
Immunotherapy

Research Saves Lives

Immunotherapy is a relatively new and promising area of breast cancer treatment that boosts the body's own immune system to fight cancer. There are many types of immunotherapies, including monoclonal antibodies and vaccines, among others.

Monoclonal antibodies can be used many ways. When used as an immunotherapy, they help the immune system work better at killing cancer cells. They can attach to specific proteins on cancer cells, which flags the cells so the immune system can find and destroy them. They can also work by releasing the brakes on the body's immune system so it can destroy cancer cells. Some cancer cells disguise themselves as normal cells and hijack immune system pathways called "immune checkpoints" to escape attack. Monoclonal antibodies called checkpoint inhibitors block this "identity theft" by cancer cells and help the immune system find and kill the cancer cells.

A vaccine is another type of immunotherapy. Like a traditional vaccine, such as mumps or measles, a breast cancer vaccine exposes the immune system to a tumor protein called an antigen. This triggers the immune system to make antibodies against that antigen, and attack and destroy the cancer cells. There are two types of cancer vaccines: treatment, which are designed to treat cancers that have already developed or that could recur; and preventive, which are intended to prevent cancer from developing.

No immunotherapies have been FDA approved yet for breast cancer, however research suggests they may be successful for some types of breast cancers. Immunotherapies have been approved for other cancers such as melanoma, lung and blood cancers.

Learn more about emerging areas in breast cancer therapy
http://sgk.mn/ZqBVGB

Our Research Investment

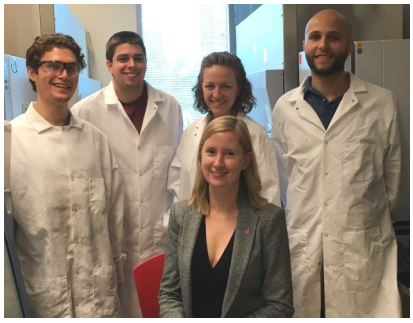
More than $47 million in over 130 research grants and 15 clinical trials focused on vaccines and immunotherapy

What We're Investigating

Testing whether the body's own immune cells can be targeted to prevent or treat metastatic breast cancer to the brain or lungs.

Developing biomarkers that can predict who will respond to different immunotherapies

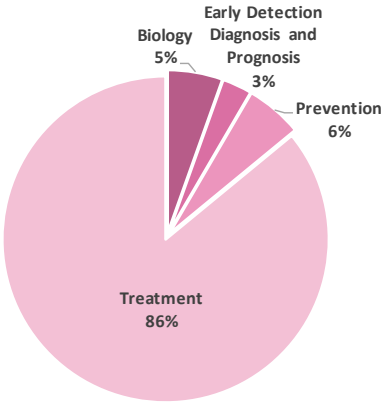
Determining whether immunotherapies can be combined with other drugs or radiotherapy to prevent or treat drug resistant breast cancer



Read how Dr. Susan Thomas and her team at the Georgia Institute of Technology is using nano-technology to deliver immununo-therapies to make them more effective at treating breast cancer and preventing metastasis.

http://sgk.mn/2woGyD4

Topic Area of Investment



What We've Learned
from Komen-funded research

Delivering immunotherapies directly to lymph nodes—using nanotechnology—may stimulate the body's own immune system to kill both primary and metastatic breast cancer.

A novel drug that targets a molecule found in certain immune cells, called CaMKK2, may be effective at treating triple negative breast cancer (TNBC).

Targeting the sugar molecules attached to the body's own immune cells may increase their ability to attack TNBC cells and make them more sensitive to current immunotherapies.

Learn more about breast cancer

More Komen-funded Research Stories

Get Involved & Support Komen Research

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