2024 RESEARCH FAST FACTS
Precision Medicine: Overview

SUSAN G. Komen®

RESEARCH INVESTMENT AT A GLANCE:
(1982-2024)

More than **$360** million in over **770** research grants and nearly **140** clinical trials focused on precision medicine

57% focus on treatment

ABOUT PRECISION MEDICINE

Cancer care has moved away from a "one-size-fits-all" approach toward a more individualized approach called precision medicine. Precision medicine, also called personalized medicine, tailors disease prevention and treatment by taking into account the unique differences in an individual's genes, lifestyle and environment. This allows researchers to predict more accurately which treatments and prevention strategies will work best among diverse groups of people, addressing the complexity of the disease as well as its many types and causes.

Learn more about Precision Medicine here.

WHAT WE'RE INVESTIGATING

Using big data and machine learning to discover new drug targets that harness the body's own immune system to fight triple negative breast cancers.

Testing new drug combinations that precisely target breast cancer cells and the body's immune cells to make immunotherapies more effective at killing aggressive breast cancers.

Studying how certain proteins may cause hormone therapy resistance and if new therapies targeting these proteins can restore sensitivity to hormone therapy in hormone receptor-positive breast cancer.

IN THE KOMEN RESEARCH PIPELINE:

More than **2,400** potential **new research discoveries** (drugs, biomarkers, devices, etc.) focused on precision medicine and/or treatment.

SPOTLIGHT

Big data is a powerful tool that researchers are using to advance precision medicine. Read about how Dr. Harikrishna Nakshatri is leveraging big data to find new drug targets for breast cancers that have mutations in the *PIK3CA* gene, a project developed from the 2023 Breast Cancer Hackathon Challenge sponsored by Komen and partners UT Southwestern and Lyda Hill Philanthropies.

WHAT WE'VE LEARNED FROM KOMEN-FUNDED RESEARCH

- A big data study discovered ways to predict if ductal carcinoma in situ (DCIS) will recur and become invasive, which will help doctors and patients make better treatment decisions.

- A biomarker that targets X or is called X, may help identify people who are at higher risk of heart-damaging side effects from chemotherapy.

- PET imaging may be used to identify which people with hereditary BRCA gene mutant breast cancers are likely to respond well to PARP inhibitor drugs.

LEARN MORE ABOUT BREAST CANCER

MORE KOMEN-FUNDED RESEARCH STORIES

GET INVOLVED & SUPPORT RESEARCH