2025 RESEARCH FAST FACTS
Precision Medicine: Overview

SUSAN G. Komen®

RESEARCH INVESTMENT AT A GLANCE:
(1982-2025)

Nearly **$370** million in nearly **800** research grants and close to **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. Also called personalized medicine, this approach 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 specifically for breast cancers that have mutations in the *PIK3CA* gene, which causes breast cancer cells to grow and spread to other parts of the body.

Identifying new biomarkers that can predict if certain people with triple negative breast cancer will respond to Selective Androgen Receptor Modulator (SARM) drugs, which may be more effective and have fewer side effects than chemotherapy.

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

IN THE KOMEN RESEARCH PIPELINE:
(1982-2025)

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

SPOTLIGHT
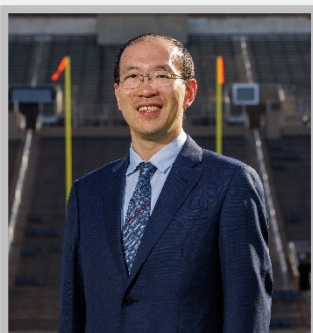
Big data is a powerful tool that researchers are using to advance precision medicine. Komen Opportunity Grant Awardee Dr. Xin Lu is leveraging big data to find new therapies that target the way the body's immune cells use energy to help make immunotherapies more effective at killing triple negative breast cancer cells. Learn more about Big Data for Breast Cancer here.

WHAT WE'VE LEARNED FROM KOMEN-FUNDED RESEARCH

- A recent study showed that a new artificial intelligence (AI) tool (Orpheus) may predict recurrence risk in some people with early-stage hormone receptor-positive breast cancer by analyzing microscopic features of breast tumor tissue.

- Biomarkers found in breast cancers that are both HER2-positive and hormone receptor-positive (luminal B) may be useful in tailoring treatments to improve outcomes for people with these types of breast cancer.

- 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

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