Individualized Therapies for Breast Cancer

Shridar Ganesan
Associate Professor of Medicine, Associate Director of Translational Science

CURRENT RESEARCH

Understanding defects in DNA repair and gene alterations to create combined, personalized therapies for breast and other cancers

Researchers now know that cancer is not one disease based solely on anatomy, but a collection of very distinct diseases. For example, two different women may be diagnosed with breast cancer, but each one may be quite different in its natural history and response to different treatments. Similarly, two cancers that arose in different parts of the body but with similar genomic changes may respond to similar treatments. Dr. Shridar Ganesan, Associate Professor of Medicine and Associate Director of Translational Science at Rutgers Cancer Institute of New Jersey, aims to identify the specific genomics changes present in a given cancer in order to both understand how this cancer arose in that patient, and to craft specific treatments. In so doing, Dr. Ganesan and his laboratory hope to ultimately develop highly individualized therapies that may combine standard chemotherapy, targeted therapy, and even immunotherapy that specifically target the biological features of each individual cancer.

A main part of Dr. Ganesan's laboratory focuses on understanding how defects in DNA repair genes, such as the breast cancer genes BRCA1 and BRCA2, can lead to specific vulnerability to certain chemotherapy agents and the new PARP inhibitors. The team has also developed a molecular tumor board, where they discuss difficult cases of cancer using clinical-grade tumor sequencing assays, to find new treatment approaches for patients with rare or refractory cancer types. A translational researcher who both probes basic science and sees patients, Dr. Ganesan collaborates with his team of computational scientists, basic scientists, and laboratory experimentalists as well as cancer centers in New Jersey and worldwide, hoping to derive...

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AFFILIATION

Rutgers University

EDUCATION

- Medical Oncology Fellowship,Dana Farber Cancer Institute
- Residency in Internal Medicine,Brigham and Women's Hospital Boston
- Pn.D. and M.D. in 1993,Yale Univeristy
- A.B. in 1985,Princeton University

AWARDS

- Award of Hope for Leadership in Research and Patient Care, 2014
- Kimmel Scholar Award, 2006
- Chief Medical Resident, 1997
- M.D.-Ph.D. Thesis Award, 1993
- A.B., Summa Cum Laude, 1985

RESEARCH AREAS

Life Science, Oncology / Cancer, Oncology / Cancer, Women's Health

FUNDING REQUEST

Your contributions will help support Dr. Shridar Ganesan's interdisciplinary team at Rutgers University as they identify gene alterations to seek effective, personalized treatments for breast cancer patients. Donations will help fund the $400-500K required to support personnel, specific cell and animal models, and analysis of patient tumor samples. Help understand cancer etiology and create more precise therapies by funding Dr. Ganesan's research!