

Title: Development of a Translational Breast Cancer Research Program

Name and Institution: Ruth A. Keri, Ph.D., Cleveland Clinic Lerner Research Institute, Case Comprehensive Cancer Center, Case Western Reserve University

Collaborators/Mentors: Stanton Gerson, MD; Serpil Erzurum, MD; Jame Abraham, MD

Background/Significance: The Cleveland Clinic has a robust, interdisciplinary breast cancer clinical program serving ~1,500 new patients/year. While care is exceptional, patient volume and clear disparities in breast cancer outcomes in Cuyahoga County compared to national levels represents an opportunity to elevate the impact of the Cleveland Clinic by making innovative discoveries that change practice.

Purpose/Objectives: This project focuses on identifying and building processes and structures for conducting translational breast cancer research that leverages basic science expertise and clinical strengths.

Short term objectives:

- 1) Develop a Breast Cancer Center of Excellence that provides resources and collaborative opportunities.
- 2) Increase communication between physicians and basic scientists.
- 3) Recruit breast cancer basic and physician scientists to Cleveland Clinic.

Long term objectives:

- 1) Increase NIH funding for breast cancer.
- 2) Expand investigator-initiated clinical trials.
- 3) Conduct and publish interdisciplinary research providing new insights into basic mechanisms and approaches for preventing and treating breast cancer.
- 4) Develop a large, multi-PI translational breast cancer grant such as a Program Project Grant (PPG) or Specialized Program of Research Excellence (SPORE).

Approach: Environmental scanning examined breast cancer incidence, funding, stakeholder interests, and alignment with Cleveland Clinic goals. Avenues for increasing interdisciplinary communication and collaboration were initiated, including establishing a Center of Excellence. Meetings with a strategist were conducted. Short, medium, and long term objectives and key results were identified and intermediate progress assessed.

Results:

- 1) Completed environmental scan; rationale solidified for building translational research focused on lobular and young women's breast cancer, local recurrence, and tumor microenvironment.
- 2) A foundational strategy framework was generated for future strategic planning. Recruiting additional clinical and basic science investigators is essential.
- 3) Breast Cancer Center of Excellence was funded for 2 years (\$400K), supporting four collaborative projects and cores for tissue-based studies, models, and spatial 'omics. Established monthly research meetings and twice-yearly meetings with an internal advisory board.
- 4) Obtained key resources (instrumentation: \$200K, tissue, bioinformatics, and models). Work is ongoing to identify a collaborating pathologist and garner approval for a blanket IRB protocol.
- 5) Monthly check-ins with breast cancer clinical team.
- 6) Ongoing recruitment of 2 basic scientists.
- 7) Phase I trialist recruited.
- 8) Foundation established for regular translational research meetings with clinical investigators.

Conclusions/Future Directions: The translational breast cancer research program is beginning to take shape. Short, Medium, and Long Term OKRs were developed and short term outcomes reviewed. Overall, progress has been excellent with some areas requiring additional focus. We require additional investigators (basic and clinical); some recruits will be in place in 2023. We must increase our collaborative research efforts to garner multi-authored publications and larger multi-PI grants. We plan to double NIH funding for breast cancer in 4 years. The team should be ready to submit a Program Project Grant or Breast Cancer SPORE in 4-5 years.