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Biomarkers for Basal-Like Breast Cancer Diagnosis

Despite recent advances in early detection and treatment, breast cancer remains a common and devastating health problem. Mammography screening detects only 70% of breast cancers and is particularly limited with basal-like subtype cancers (BLBCs). Additionally, BLBCs often present in women younger than 50, and those women are not recommended for routine mammogram. With the advent of molecularly-targeted therapeutics, biomarkers that are associated with biological subtypes of cancer may be useful for diagnosing as well as predicting responses to therapeutic interventions.

Researchers at the Biodesign Institute of Arizona State University and collaborators have identified 28 antigen biomarkers for the early detection of BLBC. These biomarkers were selected out of 10,000 tumor antigens in a sequential screening study and yielded supporting evidence in a blinded validation study. They've also identified autoantibody classifiers that differentiate patients with BLBC from healthy controls with 33% sensitivity at 98% specificity.

These biomarkers may be critical components of diagnostic tests and personalized therapeutics for breast cancer.

Potential Applications

- Diagnostic tests to detect basal-like breast cancer
- Monitoring of breast cancer treatment
- Components of personalized breast cancer therapy

Benefits and Advantages

- Strong biomarkers for basal-like breast cancer
- These biomarkers have not previously been associated with BLBC
- 33% sensitivity at 98% specificity
- Can differentiate BLBC patients from healthy controls

- Testing for these biomarkers can be performed on readily accessible samples, like plasma

For more information about this opportunity, please see

[Wang et al - Cancer Epidemiol Biomarkers Prev - 2015](#)

For more information about the inventor(s) and their research, please see

[Dr. LaBaer's departmental webpage](#)

[Dr. Anderson's departmental webpage](#)