Biomarkers For Breast Cancer And Methods Of Use Thereof

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in using *ASIP* and other genes in the melanocortin signaling network to identify early stage breast cancer patients at risk of progressing to metastatic disease.

Overview

Advances in screening and detection have led to an increase in the diagnosis of early stage breast cancer. Plotting the optimal course of treatment (i.e., more or less aggressive) remains a challenge, and clinical tests that can help oncologists make patient-specific decisions are still needed.

Identifying the drivers of progression and function-based biomarkers that predict which patients would benefit from aggressive therapies would represent a major step forward.

The Invention

A UW–Madison researcher has discovered that the Agouti Signaling Protein (*ASIP*) gene, in addition to several others in the melanocortin signaling network (MSN), may be useful as prognostic and predictive biomarkers for breast cancer progression.

The researcher found that expression levels of ASIP mRNA inversely correlate with time to progression to metastatic disease; the subset of patients whose cancer expressed the highest levels of ASIP mRNA exhibited progression faster and more frequently than the subsets that expressed intermediate or lower levels.

Without being bound to theory, it is believed that *ASIP* acts within the breast as an autocrine or paracrine suppressor of the MSN.

Applications

- Genetic prognosticators for aggressive breast cancer
- Enhancement to current diagnostic tools

Key Benefits

- Shown to improve the accuracy of several early stage breast cancer tests
- Represents advance in patient-specific treatment
- Significant potential to enhance patient survival and wellbeing

Stage of Development

Genetic data from 1881 breast cancer patients was used to determine association between gene expression levels and disease outcome. The addition of *ASIP* has been shown to enhance the prognostic power of the OncoType DX® gene panel, MammaPrint and the

Mammostrat assay.

Additional Information

For More Information About the Inventors
- James Shull

Tech Fields
- Diagnostics & Biomarkers : Biomarkers

For current licensing status, please contact Rafael Diaz at rdiaz@warf.org or 608-960-9847