



Case #669

A Predictive miRNA Signature for Breast Cancer Risk Among High-Risk Women

Significant limitations exist in the ability to predict breast cancer risk at the individual level in women at high risk of breast cancer. More precise predictions of risk are needed in these populations to ensure that those who will develop cancer take advantage of life saving preventable strategies. Researchers at UVM have identified measurable differences in C-miRNA from the serum of women at risk for breast cancer and who develop tumors and from the serum of women at risk of breast cancer who remain cancer free. From this data, a preliminary 6 miRNA risk signature has been identified that can discriminate cases from controls with high accuracy and precision, potentially years before cancer identification. Accuracy of this signature is currently better than any other published risk model.

Applications:

- Individualization of breast cancer risk in women at high risk of breast cancer.
- Functional significance of signature miRNAs will identify new therapeutic targets.

Advantages:

- Non-invasive miRNA signature
- Risk biomarker predicts breast cancer development years before detection.
- Accurate risk assessment at the individual level.
- Greater accuracy for individual risk than any published risk model.
- Provides assessment in an actionable timeline.
- Helps guide the appropriate level and types of preventive strategies.

Intellectual Property and Development Status:

PCT Application PCT/US2018/026429

Validating signature with larger cohort of samples & identifying functional significance of signature miRNAs. Looking for research & development collaborators and licensing opportunities.

References:

Development of a predictive miRNA signature for breast cancer risk among high-risk women
Oncotarget. 2017; 8:112170-112183

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