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Disease Assay

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Inventors

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Invention Description

Methods and Device for Tuning Multiplexed Markers for

A single biomarker is often insufficient to identify a given disease with both sensitivity and specificity. In such cases, one or more additional tests for other biomarkers are used in order to accurately diagnose the disease. The disadvantage of this process is that multiple sensors, wells, platforms, and/or labels are frequently required to measure the different biomarkers.

Researchers at the School of Biological & Health Systems Engineering of Arizona State University and the Biodesign Institute have developed a modified electrochemical impedance spectroscopy sensor and methods for its use in multiplexing the signal from an assay. Using this technology, multiple biomarkers can be simultaneously measured. This is accomplished without labels and with a single sensor.

The new techniques permit the design and use of orthogonal assays for multiple biomarkers without the cost and complexity of using multiple sensors, labels, wells, platforms, and/or instrumentation.

Potential Applications

- Screening for prostate and breast cancer
- More accurate monitoring of type II diabetes without additional finger pricking •
- Detection of other conditions having known biomarkers, such as other cancers, • autoimmune diseases, bacterial and viral infections, cardiovascular diseases, etc.
- Use in high throughput screening of biomarkers for diseases •
- Assess therapeutic efficacy during treatment •

Benefits and Advantages

- More robust and simpler than current orthogonal assays
- Does not require a second sensor or platform
- Labels not required

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F: 480.884.1984

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Intellectual Property

Status: Pending

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