Multiplexed Point-of-Care Breast Cancer Marker Detection System

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ABSTRACT

Researchers at the University of California, Davis and the Lawrence Livermore National Laboratory have developed a multiplexed immunoassay to measure a panel of five related molecular markers to achieve more relevant and reliable information for diagnosis of breast cancer

FULL DESCRIPTION

The presence and advancement of tumors has been shown to be associated with the expression of certain molecular markers. However, currently no single ideal marker exists for breast cancer.

Researchers at the University of California, Davis and the Lawrence Livermore National Laboratory (LLNL) have developed a multiplexed immunoassay to measure a panel of five related molecular markers to achieve more relevant and reliable information for diagnosis of breast cancer. Compared to current breast cancer detection methods, which are associated with long wait times, high costs, skilled labor, physical and psychological trauma and low accuracy, UC Davis and LLNL researchers have developed a rapid, cost effective, disposable, sensitive microarray based device capable of detecting the multiplexed panel of markers. In addition, UC Davis and LLNL researchers are also modeling the interaction of antigen and antibody in this type of an immunoassay and the effect of flow on the reaction rates in this device.

APPLICATIONS

- Automated, point-of-care protein array-based immunoassay device capable of sensitive, simultaneous detection of multiple breast cancer markers
- Multiplex immunoassay technology for point-of-care diagnostic applications

FEATURES/BENEFITS

- Less wait time
- Cost effective
- Disposable
- Higher accuracy

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,366,668	06/14/2016	2005-529

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OTHER INFORMATION

KEYWORDS

multiplexed immunoassay, breast cancer, molecular markers, tumors, antigen antibody interaction, point of care, cancer biomarkers, multiplexed cancer detection

CATEGORIZED AS

- **Medical**
  - Diagnostics
  - Disease: Cancer

RELATED CASES

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