AUTOMATED MICROFLUIDIC DEVICE FOR ANALYTE DETECTION

Tech ID: 18063 / UC Case 2009-064-0

BRIEF DESCRIPTION

Conventional analytical techniques used for detecting specific analytes in a sample often fall short of performance needs for applications that demand high-throughput sample analysis or operate in resource poor settings. These conventional techniques also often require labor-intensive, time consuming, multi-step procedures carried out by trained technicians and are impractical for use in a clinical setting.

UC Berkeley researchers developed an automated multi-dimensional microfluidic device which uses microfluidic technology to streamline all steps needed to obtain mobility and binding-based identity information in one continuous assay. The assays complete in minutes, are readily adaptable to a broad range of multistage assays and are highly sensitive and specific.

SUGGESTED USES

- Rapid and automated bioanalytical separation, identification and quantification
- Multiplex analyte testing (proteins, nucleic acid sequences, biomacromolecules)
- Point of care diagnostics
- High throughput analysis
- Validation and research assays

ADVANTAGES

- Adaptable to detect a wide range of analytes
- Can be used as a rapid western blotting system (assay requires less than 5 minutes) provide large time savings over conventional methods
- Consumes less sample and primary binding member
- Does not require manual intervention and is less labor intensive
- One cohesive device optimized for separation, transfer, dilution and blotting steps
- Simultaneous multi-analyte detection
- Adaptable to many types of diagnostic sample types (e.g., serum, CSF, tissues, saliva, semen)

PUBLICATIONS

Automated microfluidic protein immunoblotting

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,110,057	08/18/2015	2009-064

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INVENTORS

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OTHER INFORMATION

KEYWORDS

microfluidic, analyte, electrophoresis, lab on a chip, diagnostic, validation, blot, research tools, assay

CATEGORIZED AS

» **Biotechnology**
» Genomics
» Proteomics
» **Medical**
» Diagnostics
» Research Tools
» **Research Tools**
» Other

RELATED CASES

2009-064-0, 2011-045-0, 2011-054-0, 2011-067-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Simultaneous Detection Of Protein Isoforms And Nucleic Acids From Low Starting Cell Numbers
- Single-Cell Isoelectric Focusing and pH Gradient Arrays

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