

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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