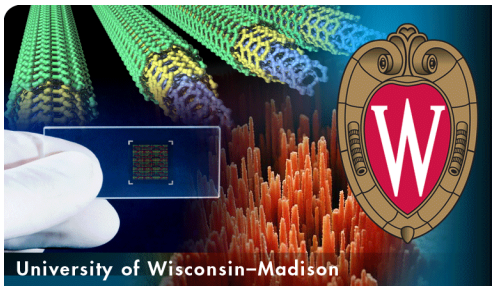

Snap-On Microfluidic Lid for Handheld Diagnostics and Chemical Tests

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WARF: P110044US01

View U.S. Patent No. 9,186,670 in PDF format.

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing preloaded, easy-to-use microfluidic devices that are inexpensive to manufacture and empower fast analysis in both the lab and field.

OVERVIEW

Investigation of cells, biochemicals and other samples by microfluidic devices stands to aid a full spectrum of research, from global HIV initiatives to the development of new drugs. Such devices provide efficiency, reducing reagent and cell usage, and enable a high rate of processing and analysis across various experimental conditions.

However, intricate pumping and tubing equipment and sample preparation steps have undercut the wider use of this technology in clinical settings. To realize the vast, empowering potential of microfluidics, new tools must be designed to alleviate labor and complexity.

THE INVENTION

UW–Madison researchers have developed a microfluidic design and method that supports rapid and simplified handheld diagnostics and assays.

The device is formed in two separate sections— a base and a functionalized lid—that can be snapped together. The base has channels running between two ports. The lid, which is disposable and holds a well prepackaged with selected liquids like a drug or chemical, has a piercing mechanism. When pressed to the base, the membrane covering the well is perforated and the substance induced to flow down into the base, through its channels and back up into the lid's absorption pad.

The functionalized lid can not only pump, but also can be designed to apply a chemical gradient using wells filled with hydrogel and reagents that diffuse into the channels.

THE WARF ADVANTAGE

Since its founding in 1925 as the patenting and licensing organization for the University of Wisconsin-Madison, WARF has been working with business and industry to transform university research into products that benefit society. WARF intellectual property managers and licensing staff members are leaders in the field of university-based technology transfer. They are familiar with the intricacies of patenting, have worked with researchers in relevant disciplines, understand industries and markets, and have negotiated innovative licensing strategies to meet the individual needs of business clients.

APPLICATIONS

- Personalized, point-of-care diagnostics
- Biochemical sensing kits
- Chemotaxis assays
- Medical research

KEY BENEFITS

- Operated anywhere
- Needs no additional equipment or electricity
- Inexpensive to manufacture
- Minimizes time and preparation steps
- Enables handheld, disposable diagnostics and assays

ADDITIONAL INFORMATION

Related Technologies

For more information about functionalized microfluidic lids for the transport and preservation of samples, see WARF reference number P110339US01.

See an example of how the KOALA technology could be used.

Tech Fields

Micro & Nanotech - Microfluidics

Analytical Instrumentation - Microfluidics

CONTACT INFORMATION

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846.