Devices, Systems and Methods for Sample Detection

Published date: March 5, 2018

Technology description

A stand-alone microfiuidic device for sample lysis DNA extraction would allow for decreased sample and reagent volumes, reducing the cost per sample and minimizing wasted reagents. Current microfiuidic devices, however, require high sample volumes that are not forensically relevant, require high speeds and complex valving that limits portability, and has not demonstrated multiplexed amplification required for forensic lab DNA testing. Researchers at The University of Virginia have developed apparatuses, systems and methods for in vitro sample detection. For example in one embodiment, this disclosure provides an automated Pe-toner microfluidic device (and related method) on a centrifugal platform for DNA sample lysis and DNA extraction. A second embodiment provides a system and method for qualitative detection, quantification, and real-time monitoring of nucleic acid amplification products using magnetic bead aggregation inhibition. A third embodiment provides a platform for simultaneous detection of mRNA markers from blood, cell-free semen, sperm, saliva, and vaginal fluid.

Institution

University of Virginia

Inventors

Jacquelyn Duvall
Jingyi Li
James Landers
Gavin Garner
Kimberly Jackson
Daniel Mills

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com