A Rapid Multiplexed Paper Diagnostic Platform  
Technology #15365

Applications
- Multiplexed detection of pathogens
- Adherence/compliance monitoring
- Detection of prognostic biomarkers that reflect disease severity

Problem Addressed
Monitoring environmental pollution, detection of biomarkers in biological samples and tracking food pathogens require simultaneous identification of multiple of analytes. In developing markets, low cost robust assays of adequate sensitivity and specificity are not available.

Technology
This work presents a compact point-of-care sensor platform capable of simultaneous detection of multiple analytes – proteins, nucleic acids, carbohydrates, toxins, drugs, and drug metabolites. The sensor consists of a paperfluidic platform with multiple channels that guide analytes to sensing areas arranged in a matrix format. Via a sandwich assay using capture and detection antibody pairs, the device can detect multiple analytes in a sample and display the results in a mobile phone or machine readable format, which converts the diagnostics results into a digital format with GPS and time/date data.

Advantages
- Independent detection of up to 8-10 biomarkers from the same sample
- Faster speed of detection and analysis
- Lower cost comparing to traditional analytical lab tools (ELISA, PCR)
- Conversion of the results into digital format using mobile phone detection scheme

Categories For This Invention:
Life Sciences  
Clinical Applications  
Other (Clinical Applications)  
Diagnostics  
Other (Diagnostics)  
Therapeutics  
Vaccine

Intellectual Property:
Systems, devices and methods for multiplexed diagnostics
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