Smart Paper Test Strips for POC Detection of Insulin, and Beyond

Smart paper test strips that can accurately detect insulin in saliva at the point-of-care, offering a replacement for the current ELISA test.

Competitive advantage

This paper-based technology can accurately detect insulin to provide point-of-care monitoring for patients with pre-diabetes or diabetes.Advantages include:

- Saliva detection – the technology is non-invasive
- Rapid response times of less than 10 min
- Accurate – comparable to the standard ELISA test
- Highly sensitive (0.03 ng/mL insulin sensitivity, 1 order more sensitive than ELISA)
- Cost-effective (less than $1 per test strip)
- Stable at room temperature
- Point-of-care disposable strips
- Simple to use with an optical signal readable by eyes, or smart phone
- Smart paper strip has universal applications for early detection of chronic disease biomarkers
- Suitable for resource limited settings

More Information

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Impact

- Simple detection of insulin in saliva
- Improved ability to prevent and manage pre-diabetes or diabetes
- Smartphone-based signal readout will improve data collection and management of health data, enhancing capabilities to use big data for machine learning and Artificial Intelligence

Successful outcomes

- Provisional patent filed (2018904363)
- Start-up in development

Capabilities and facilities

- Dedicated facilities for making pape