MASARYK UNIVERSITY

Illness Diagnosis in Thirty Minutes Using Pocket Analyzer

Field: Personalcare | Diagnostics | Medical devices



Seeking

Development partner Commercial partner Licensing University spin out Investment

IP Status

Patent application in preparation

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CHALLENGE

To provide simple-to-use diagnostic tools for the untrained public, making diagnostic solutions available for environments outside the laboratory (doctor's office, home).

The pocket analyzer can detect diseases in which the body produces specific antibodies.

TECH OVERVIEW

The presented technology is designed as a pocket analyzer/biosensor for self-testing or home-care testing, which can be used outside specialized workplaces by unqualified persons.

The diagnostic approach consists of a compact analyzer of small dimensions designed to determine biomolecules in the liquid sample (e.g. blood, serum, urine). This device contains all important components required for autonomous measurement, e.i. a disposable measuring chip with a sample application site, and miniaturized control electronics automatically evaluating the measured signal. The device can also be powered by special low-cost one-purpose galvanic cells (batteries), which are activated by the addition of any liquid, e.g. urine.

BENEFITS

- Results are known within 30 minutes after the sample application
- The use of more sophisticated analytical methods by unqualified persons outside of specialized facilities
- Simple operation of the instrument
- The instrument and all components are inexpensive while maintaining high quality
- Possibility of serum analysis without any purification
- Possibility of diagnosing several different diseases on a single platform (detection of several different analytes using one instrument in combination with different testing strips)

APPLICATIONS

The technology belongs to simple diagnostic and analytical solutions such as lateral-flow tests (e.g. Ag-tests for covid-19) and also to highly sophisticated automated instruments in clinical laboratories.

