

Paper-based Device as Point of Care Test for Detection of Infections in Body Fluids

CSIC and the Universitat Politècnica de Catalunya have developed a simple foldable paper-based fluidic device (InfectCheck) for the detection of infections in body fluids such as saliva, sputum, wound exudate, blood and /or sweat.

Industrial Partners from biomedical sector to further development of the device and/or to establish commercial agreements are sought.

An offer for Patent Licensing and technical cooperation

InfectChek, a foldable paper-based fluidic device for detection of wound infections

Chronic wounds represent a challenge to care professionals. The severity and cost of wound infections increase dramatically the longer they remain untreated. The resulting pain, impairment and social isolation lead to reduced quality of life and, in the worst case, hospitalization, and eventually sepsis and death.

Standard procedures for wound infection detection are time consuming (microbiological tests) or show limited reliability due to the subjective judgement.

Based on the medical practitioners' interests, InfectCheck has been developed as simple point of care testing (PoCT) device. It has been developed as a foldable paper-based fluidic device for detection of infection related to enzyme biomarkers in body fluids. InfectCheck has been designed to implement a highly specific immuno-capturing of an enzyme biomarker, followed by fast color intensity change due to the enzyme activity revealing the state of infection. InfectChek has been validated for detection of infection in chronic wound exudates and sputum by measuring the levels of myeloperoxidase (MPO) enzyme biomarker. A preclinical validation in chronic wound fluids and sputum is required.



Fig. 1) Design and operation of InfectCheck

Main innovations and advantages of InfectChek

- Rapid, reliable and inexpensive visual detection of infection in body fluids such as saliva, sputum, wound exudate, blood and /or sweat.
- Fast self-assessment as Rapid Diagnostic Kit for infection testing performed by patients suffering from Chronic wounds, chronic obstructive pulmonary disease (COPD) and or adverse cardiac events.
- It does not require any instruments and is self-operated by the patient, obtaining result within 5 minutes.
- Easy implementation in screening programs for infection control in the population at risk.
- Early disease detection. It means diminution of hospital stays improving patients' quality of life and reducing healthcare costs.

Patent Status

PCT application

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