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Candidemia and invasive candidiasis is a cause of high mortality and morbidity rates among hospitalized patients worldwide. The occurrence of the infections increases due to the complexity of the patients and overuse of the antifungal therapy. The current Candida detection method includes blood culturing which is a lengthy procedure and thus delays the administration of the antifungal therapy. Even though the results are available after 48 h it is still the gold standard in pathogen detection in a hospital setting. In this work we present an electrochemical impedance sensor that is capable of detecting Candida albicans yeast. The yeast cells are captured on electrodes specifically functionalized with anti-Candida antibodies and detection is achieved by electrochemical impedance spectroscopy. The sensor allows for detection of the yeast cells at clinically relevant concentrations in less than 1 h.

General information
Publication status: Published
Organisations: Department of Micro- and Nanotechnology, Nano Bio Integrated Systems, Copenhagen University Hospital, Technical University of Denmark
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Publication date: 2018
Peer-reviewed: Yes

Publication information
Journal: Sensors
Volume: 18
Issue number: 7
Article number: 2214
ISSN (Print): 1424-8220
Ratings:
BFI (2018): BFI-level 2
Scopus rating (2018): CiteScore 3.72 SJR 0.592 SNIP 1.576
Web of Science (2018): Impact factor 3.031
Web of Science (2018): Indexed yes
Original language: English
Keywords: Candida, Electrochemical impedance spectroscopy, Membrane based sensor
Electronic versions:
sensors_18_02214.pdf
DOI:
10.3390/s18072214
Source: FindIt
Source ID: 2437709444
Research output: Contribution to journal – Journal article – Annual report year: 2018 – Research – peer-review