

## **DNA microarray based on arrayed-primer extension technique for identification of pathogenic fungi responsible for invasive and superficial mycoses.**

Campa D, Tavanti A, Gemignani F, Mogavero CS, Bellini I, Bottari F, Barale R, Landi S, Senesi S (2008) DNA microarray based on arrayed-primer extension technique for identification of pathogenic fungi responsible for invasive and superficial mycoses. *J Clin Microbiol* 46(3), 909-915.

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### **Abstract**

An oligonucleotide microarray based on the arrayed-primer extension (APEX) technique has been developed to simultaneously identify pathogenic fungi frequently isolated from invasive and superficial infections. Species-specific oligonucleotide probes complementary to the internal transcribed spacer 1 and 2 (ITS1 and ITS2) region were designed for 24 species belonging to 10 genera, including *Candida* species (*Candida albicans*, *Candida dubliniensis*, *Candida famata*, *Candida glabrata*, *Candida tropicalis*, *Candida kefyr*, *Candida krusei*, *Candida guilliermondii*, *Candida lusitanae*, *Candida metapsilosis*, *Candida orthopsilosis*, *Candida parapsilosis*, and *Candida pulcherrima*), *Cryptococcus neoformans*, *Aspergillus* species (*Aspergillus fumigatus* and *Aspergillus terreus*), *Trichophyton* species (*Trichophyton rubrum* and *Trichophyton tonsurans*), *Trichosporon cutaneum*, *Epidermophyton floccosum*, *Fusarium solani*, *Microsporum canis*, *Penicillium marneffeii*, and *Saccharomyces cerevisiae*. The microarray was tested for its specificity

with a panel of reference and blinded clinical isolates. The APEX technique was proven to be highly discriminative, leading to unequivocal identification of each species, including the highly related ones *C. parapsilosis*, *C. orthopsilosis*, and *C. metapsilosis*. Because of the satisfactory basic performance traits obtained, such as reproducibility, specificity, and unambiguous interpretation of the results, this new system represents a reliable method of potential use in clinical laboratories for parallel one-shot detection and identification of the most common pathogenic fungi.

## Involved units

[Microbial Pathogenicity Mechanisms Bernhard Hube](#) [Read more](#)

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