

Technological Trends on Candida Glabrata Diagnosis through Patent and Literature Analysis

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Keywords: Candida glabrata, Technology transfer, Technological trends, patent, licensing

Abstract

Candida glabrata is a fungal disease prevalent in highly developed countries. The risk of infection increases as the patient is diabetic, immunosuppressed or is at an ICU. Thus, it is identified as an intra-hospital disease that causes 50% death when sepsis, implying high socio-economical costs. The average detection time actually is of about 155 hours, and the fungus resists the most common antifungal agents. Therefore, more cost effective, specific and rapid detection is required by NIH. This work is focused on the study of technological trends on Candida glabrata detection. Patent and literature databases were developed using different Boolean keyword search approaches, for selecting those patent and scientific articles specifically related to detection and diagnosis methods on Candida glabrata. Said documents were filtered and classified according to the type of detection strategy (immunologic, molecular, etc.) and upon time. Afterwards, specific kinds of methodologies (culture media, ELISA, PCR, RT-PCR, etc.) were pointed out, including specific protein or nucleotide sequences related to each document. Our analysis allowed us to detect which methods, proteins or genes are the most protected and studied and the different actors upon time, involved in this research field.

By analyzing both patent and scientific literature documents, the technological trend over diagnosis and detection of Candida glabrata is provided. This work helped on the final development of an effective molecular detection method for C. glabrata. Patent applications were filed in several countries and still available for partnering or licensing processes for its commercialization.