Technological Trends on *Candida glabrata* Diagnosis through Patent and Literature Analysis

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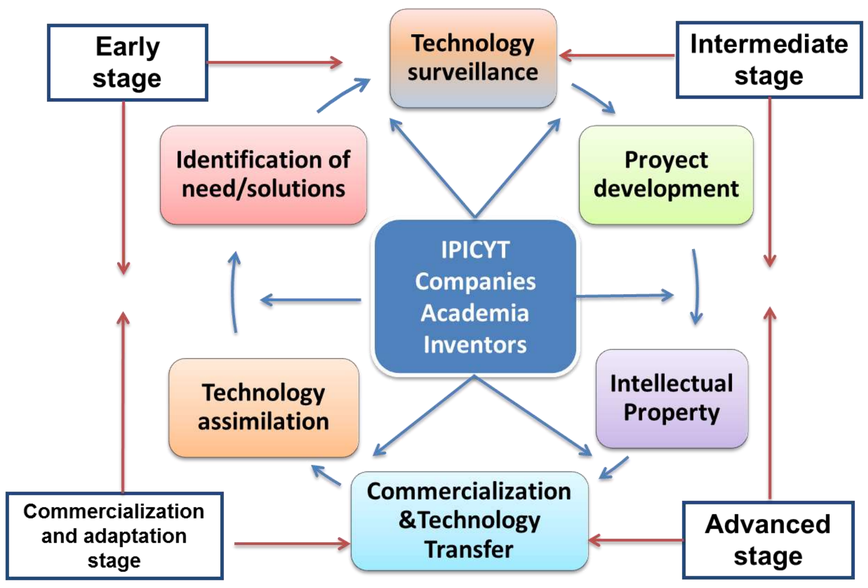
Technology Management Model



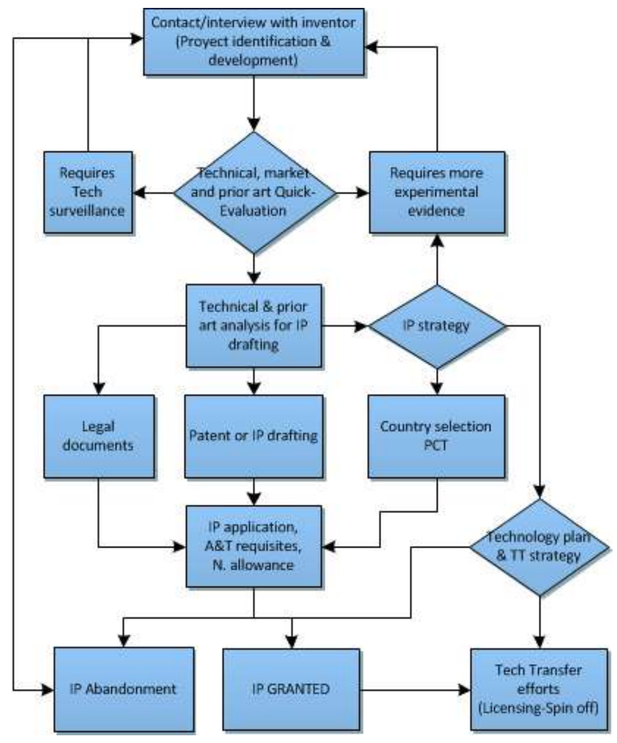
Tech trends for R&D-IP efficiency

Novel Tech trends approach method is proposed for increasing efficiency for increasing patent oriented R&D and Technology transference from Research centers. Tech trends plus market needs detection and a simple IP operative procedure could allow to develop inventions, potentially transferable in a more efficient way.

Arising from an adapted Tech management model which requires to receive projects at different stages of development, Tech surveillance evaluate topics of interest and could define strategies for increase the speed and decrease the amount of resources involved in a R&D process, increase possibility of patent granting and possibilities of technology transference.

R&D efficiency increases when decision makers have the most complete information about the tech, legal and market trends and could evaluate potential scenarios and choose the best R&D route.

IP Operative Procedure



STUDY CASE

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.

PATENT PROTECTION

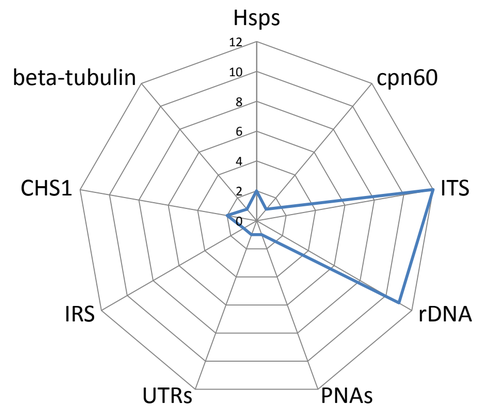
EPO & Mexican Patent Applications pending.

Available for licencing

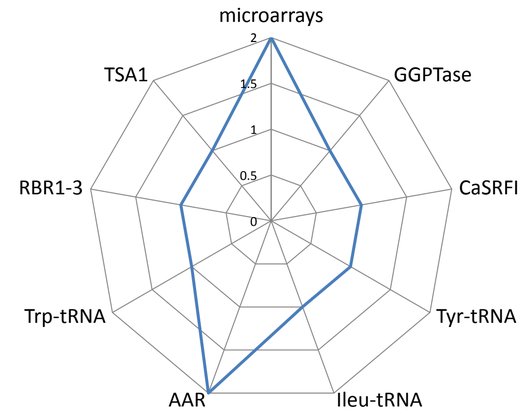
TECHNOLOGICAL TREND

According to patent analysis, the following genes have been used for *C. glabrata* and *C. albicans* diagnosis:

Genes used for *C. glabrata* diagnosis

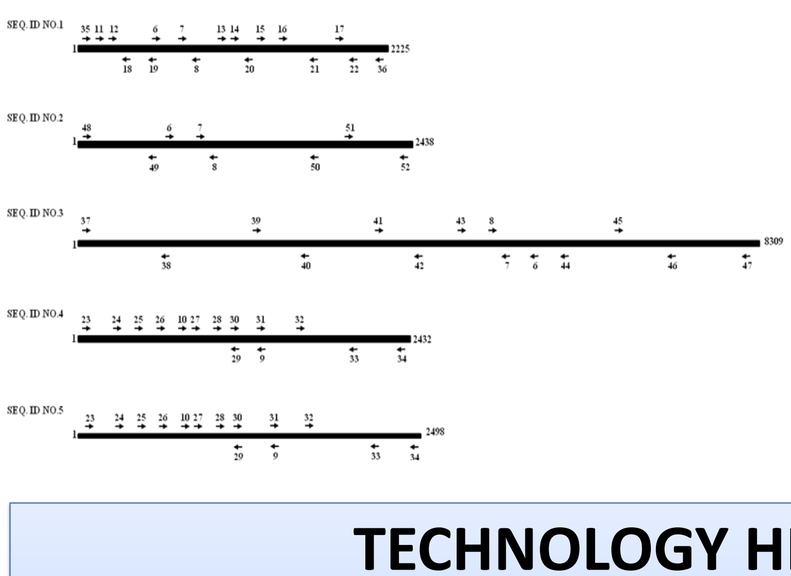


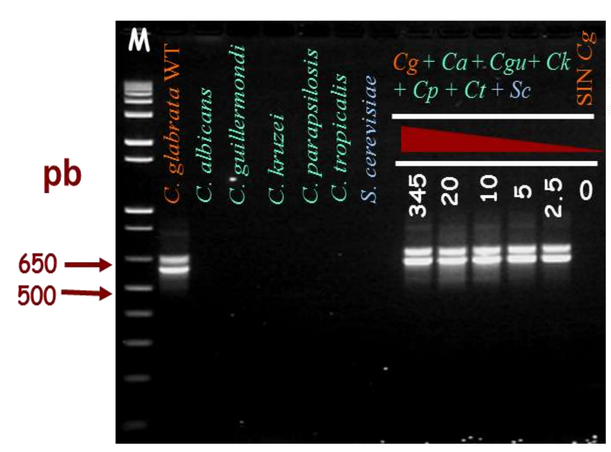
Genes/techniques used for *C. albicans* diagnosis



TECHNOLOGICAL SOLUTION

Use of sub-telomeric regions in several chromosomes of *C. glabrata*





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(54) Title: IN VITRO METHOD FOR THE DETECTION OF *CANDIDA GLABRATA*, DIAGNOSTIC KIT AND USE THEREOF

(54) Título : METODO IN VITRO PARA LA DETECCION DE *CANDIDA GLABRATA*, KIT DE DIAGNOSTICO Y USOS DE LOS MISMOS

TECHNOLOGY HIGHLIGHTS

Reduces diagnostic time to 4±2 hours (vs 154±44 reported)

Detects 5 different chromosomic regions of *C. glabrata*

Sensibility in picograms of DNA

No cross-reaction against other patogens

100% accuracy in 250 clinical tests

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