



DIAGNOSTIC FOR FUNGAL PATHOGENS

PCR-Based Assays to Diagnose Fungal Pathogens

Brief Description of Technology

Method for isolating a patient sample and detecting fungal pathogens, useful for immunocompromised patients to promote accurate characterization and treatment of infection.

BUSINESS OPPORTUNITY

Exclusive license
Sponsored research

TECHNOLOGY TYPE

Diagnostic

STAGE OF DEVELOPMENT

Validation completed

PATENT INFORMATION

US 8450059
US 20100129821

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Technology Overview

Dr. Fredricks has developed a novel diagnostic method for detecting and characterizing fungal pathogens in patients. Although fungal spores are frequently inhaled by healthy humans, immunocompromised patients are susceptible to these pathogens causing life-threatening infections, thus rapid and accurate identification of fungal pathogens can be critical for initiating treatment in the earliest stages of infection. This method involves isolation of patient samples followed by PCR reactions to generate amplicons in the fungal ITS2 region and the 28S ribosomal RNA genes. This method provides a distinct advantage to culture-based diagnosis, using effective lysis of fungal cell walls coupled with the ability to distinguish among fungal species. This technology also encompasses the detection of invasive pulmonary aspergillosis (IPA) with an optimized qPCR assay platform. IPA has a high mortality despite appropriate antifungal therapy, and so early detection and treatment is key.

Applications

- Respiratory infections
- Invasive pulmonary aspergillosis
- Immunocompromised patients

Advantages

- Efficient method for fungal detection
- Ability to distinguish between fungal species
- Invasive pulmonary aspergillosis detection

Market Overview

Millions of people around the world are diagnosed with a fungal pathogen infection every year. Immunocompromised patients are particularly susceptible to fungal infections with incidence of up to 9% of immunocompromised patients leading to a high mortality rate.