

APPLICATION OF EARLY LABORATORY BIOMARKERS FOR IMPROVEMENT OF EFFECTIVENESS OF TREATMENT OF FUNGAL DISEASES IN HUMANS – Project No A13



Center for
technology
transfer

Market Opportunity

Fungi are a major cause of disease in humans, frequently chronic and contagious. Whilst these diseases are usually superficial, patients with hematological malignancies, after transplantation or those affected with immune and metabolic disorders may develop invasive fungal disease (FD) which may lead to fatal outcome without diagnosis and treatment. Early and precise laboratory diagnosis enables timely treatment and reduced morbidity and mortality as well as efficient follow-up and prevention of FD.

Researchers from the University of Belgrade have formed a strategy to transfer experiences and the results of scientific research in the field of medical mycology to laboratory and clinical practice, in order to aid in the proper diagnosis and to improve the effectiveness treatment of FD in humans.

The Invention

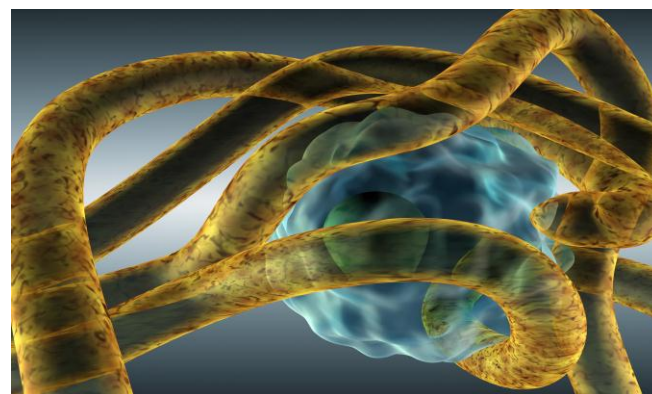
The first innovation is the new strategy for early diagnosis of FD based on the introduction, improvement and standardization of new laboratory procedures (immunological and molecular methods) for early laboratory detection of fungal biomarkers (*Candida* and *Aspergillus*, mostly) such as specific fungal structures: DNA, beta-D-glucane, galactomannan and mannan as well as specific antifungal antibodies in different patient categories and samples. The combination of standard mycological methods and early laboratory biomarkers led to creation of „triple test“ with high cumulative sensitive value. The “triple test” enables high degree of diagnostic precision and early diagnosis of FD, resulting in early and optimal treatment and long-term reductions of FD mortality and treatment costs. These services are available both for outpatients and hospitalized patients at affordable prices that are financially viable and sustainable.

The second innovation is E-MYCOLABnet software and database. Software allows fast reporting of test results and its expert interpretation during the screening of patients at risk and their further evaluation and follow-up and prevention of FD. The data are encapsulated in special software with dedicated database of patients with FD. The database consists of personalized lab test results, clinical

and epidemiological data of individual patients with FD as well as their respective bank samples. Use of this software allows medical authorities to monitor the spread of FD in order to determine a national strategy of control, prevention and treatment of FD based on exact data. Also, use of database allows pharmaceutical company to create strategy for new antifungal products.

Project Status

Results of this project are mainly know-how, but trademark, database right and software copyright will also be protected.



Research Group

This strategy was developed by researchers from the University of Belgrade, Faculty of Medicine.

Commercial Status

We are looking for potential licensees and collaborators to develop and commercialise the invention.

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About the Center for Technology Transfer

The Center for technology transfer was founded by the University Council of the University of Belgrade to identify, protect and commercialize the results of scientific research and intellectual property of the University of Belgrade.