Anna **Brzostek**

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Scopus bibliometric data: citations **1320** · documents **76** · h-index **25**

Currently held positions

Institute of Medical Biology of the Polish Academy of Sciences, Laboratory of Mycobacterium Genetics and Physiology — *Lodz*

Associate Professor

Department of Genetic Engineering, Institute of Medical Biology — *Lodz*

Group Leader

Scientific profile and collaborations

My scientific research focuses on molecular studies of Mycobacterium tuberculosis, the well-known for causing globally spread disease called tuberculosis (TB). The main threat related to Mtb is its increasing antibiotic resistance, with growing evidence of extensively and totally drug resistant tuberculosis. Therefore it is important to study the molecular basis of the acquisition of resistance to antimycobacterial compounds as well as searching and testing new compounds. These studies are conducted in collaboration with **National Institute of Tuberculosis and Lung Diseases in Warsaw and University of Lodz**. My research is also connected with the identification of proteins and enzymes involved in the repair of mycobacterial DNA damages, that could be also the target for antituberculosis drugs and are necessary for maintaining of the mycobacterial genome stability. This part of work is conducted with collaboration with **East England University in Norwich and University of Sussex, Brighton, England**. In addition, I am also interested in studies on the mycobacterial metabolic pathways, especially enzymes engaged in their catabolism of steroids and other virulence factor.

My research is interdisciplinary and combines microbiology, molecular genetics, immunology and chemistry. All disciplines contribute to the development of basic knowledge as well as application of new methods for elimination of tuberculosis

Selected publications

2017 ***DNA Ligase C and Prim-PolC participate in base excision repair in mycobacteria*** **[link]**

2021 ***Dissecting the RecA-(In)dependent Response to Mitomycin C in Mycobacterium tuberculosis Using Transcriptional Profiling and Proteomics Analyses*** **[link]**

2021 ***Cholesterol-dependent transcriptome remodeling reveals new insight into the contribution of cholesterol to Mycobacterium tuberculosis pathogenesis*** **[link]**

Research grants

Principal Investigator: 2 grants: NCN

Co-Investigator: 11 grants: KBN, NCN, MNiSW, Lider, POIG- InterMolMed

International research stays

Japan, Center for International Biotechnology, University of Osaka, Osaka, laboratoty of Prof. Yoshikastu Murooka

Belgium, Institute for Tropische Medicine, Antwerpia, laboratoty of Prof. Francuise Portaels

England, University of East Anglia, Norwich, laboratory of Prof. Richard Bowater