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The characteristics of highly immunoreactive surface proteins of *Clostridium difficile* using human sera

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Statement of the problem *Clostridium difficile* is the cause of one of the most common hospital-acquired infections (CDI), which is antibiotic-associated diarrhea, which may develop pseudomembranous colitis and toxic megacolon, which in many cases leads to death of the patient. Despite the work of many research groups, there is still no commercially available vaccine to prevent infection. Methodology To identify the most immunoreactive proteins, electrophoretic isolation of *C. difficile* R20291 strain proteins was performed by six different methods using Prep-Cell Apparatus (491 model Bio-Rad). Proteins were analyzed using 2D electrophoresis and immunoblotting assay with

sera from human healthy adults and Polish patients with CDI. Findings the protein yield was dependent on isolation method and the reactivity of proteins detected by SDS-PAGE and Western blotting was heterogeneous. Four proteins with molecular masses of about 45 kDa, 65 kDa, 115 kDa and pI between 4 and 5 showed immunoreactivity features. Proteins were identified by comparative analysis of peptides masses (NCBI, UniProt databases) using MASCOT and statistical analysis. Conclusion & Significance Identified proteins have been proposed as vaccine candidates against CD infection.

Biography

Sabina Górska is an Assistant Professor at the Institute of Immunology and Experimental Therapy Wrocław, Poland. The subject of her scientific interests is research in the area of medical microbiology, experimental immunology and immunobiological phenomena in the conditions of health and disease. The subject of her work specially refers to the structural research of surface bacteria antigens and their importance in the development of contagious diseases and immunological response. Grants: Ministry of Science and Higher Education, National Science Centre, EU grants.

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