The healthy human microflora is an environment in which both beneficial and pathogenic microorganisms function side by side. The imbalance of this delicate balance causes the multiplication of selected pathogens resulting in the appearance of specific disease entities. Very often this concerns the proliferation of *Candida albicans*, which is a commensal organism belonging to yeast. This situation can lead to infections with a high mortality rate in people with a compromised immune system. Often it is a pathogen that causes problems in hospital conditions, and strains resistant to traditional antibiotics cannot be easily combated resulting in patient mortality of up to 40%. Therefore, despite undoubted advances in medicine, candidiasis is still a serious threat.

The search for new antifungal agents directed us towards pharmaceuticals obtained from earthworms used in Asian countries, especially in China, where the use of so-called "Green medicine" is highly developed. Scientific articles and information on the effects of various preparations from earthworms (in dried form or extracts) indicate a wide field for research. Our research using the *Dendrobaena veneta* earthworm showed that these organisms can fight *C. albicans*, and the symbiotic intestinal bacterium of *D. veneta* - *Raoultella ornithinolytica* has the ability to produce extracellular metabolites with anti-fungal and anti-tumor properties. The material used for our research is the coelomic fluid of the earthworm, and more specifically the protein-polysaccharide fraction of the coelomic fluid. We were able to obtain a fraction that does not show endotoxicity or cytotoxicity to human skin fibroblasts, and at the same time has high activity against *C. albicans* cells. In this way we led to the selection of a new preparation with the potential of a natural antibiotic.

The purpose of the presented project is to thoroughly characterize the components of the coelomic fluid fraction, to determine its components with the highest activity against *C. albicans*, and most importantly to characterize the mechanism of action of the entire preparation on pathogen cells. Comparison of the natural preparation with the most popular antibiotics used in this type of infection will finally confirm its potential.