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2D-DIGE ANALYSIS OF POTENTIALLY PATHOGEN *SACCHAROMYCES CEREVISIAE* STRAINS ISOLATED FROM DIETARY SUPPLEMENTS AFTER INCUBATION IN HUMAN BLOOD

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In the last years, the incidence of infections caused by *Saccharomyces cerevisiae* has significantly increased in immunodepressed patients. In order to study the possible relation between the ingestion of live *S cerevisiae* cells, through the consumption of dietary supplements, and infections in humans, we are trying to identify putative virulence traits in yeast strains from dietary supplements. In order to address the identification of potential proteins involved in virulence, a comparative study of global protein expression, between virulent and avirulent strains after incubation with human blood, was performed by means of 2D-DIGE. The use of human blood has been chosen since the dissemination of yeast cells in the bloodstream constitutes an essential stage in the development of systemic infection. After different times of *S. cerevisiae* cells incubation in blood (0, 1.5 and 3 hours at 37ºC and semi-aerobic conditions) cytoplasmic yeast extracts were obtained. Protein extracts from three biological replicates were labelled with Cy3 or Cy5 DIGE minimal labelling and an internal standard was labelled with Cy2. Nine DIGE gels were run and, after fluorescence detection, gels were analyzed by means of EDA module of the Decyder software. Remarkably, only from 4 to 37 differential expression proteins where detected comparing different times of the same strain, while inter-strain analysis allowed the detection of a significantly higher number of differentially expression proteins (from 79 to 215). Identification of these proteins is currently underway.