EVALUATION OF AN ANTIOXIDANT SYSTEM IN RESPONSE TO CISPLATIN IN *SACCHAROMYCES CEREVISIAE*

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Although cisplatin is one of the most used anticancer drugs, the cellular response against this drug has not been fully understood. It has been suggested that many drugs promote cancer regression due to the increase of intracellular free radicals, triggering the process of apoptosis. In this work we used *S cerevisiae* cells for evaluation of citotoxicity because of their ability to grow under fermentative and respiratory conditions, characteristic of cancerous and healthy cells, respectively. Strains of *S. cerevisiae,* BY4741 control, *sod1?* and *gsh1?* growing on YPD 2% (fermentative metabolism) and YPD 0,5% (respiratory metabolism) were directly submitted to 0.45mM of cisplatin. Cells were collected after 1, 2, 5 and 24hs of stress and viability, mutagenesis, lipid and protein oxidation determinations were analysed. Control cells in respiratory metabolism showed to be more resistant than cells in fermentative metabolism. However this phenotype was lost in *sod1?* and *gsh1?* strains. In addition, Sod deficiency leads to high mutagenesis levels while no enhancement of lipid and protein oxidation was observed when compared with the control strain. Regarding GSH deficiency, we suggest that cellular response against cisplatin is dependent on this factor since *gsh1?* strains showed higher sensitivity presenting increased rates of lipid and protein oxidation. Our results indicate a strong relation between oxidative stress and cellular response to cisplatin.