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BOOK OF ABSTRACTS



ENCONTRO DE
BIOTECNOLOGIA
MEDICINAL

18 DE MAIO DE 2018
ESCOLA SUPERIOR DE SAÚDE
POLITÉCNICO DO PORTO



IBERIAN CONGRESS ON
MEDICINAL
BIOTECHNOLOGY

MAY 18TH, 2018
SCHOOL OF HEALTH
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ISBN: 978-989-20-8533-3

The effect of high concentrations of vitamin C on a H₂O₂ - oxidative stress induced yeast model

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Nowadays, the ageing of population is conducting to a rise in the number of individuals with age-related illnesses, in which neurodegenerative diseases (ND) are included. Regardless of many variations in etiology and diverse mechanisms of cell injury, most of ND share high levels of oxidative stress, which have been highly referred not only as an underlying factor, but also as a feature. Thus, an actual challenge is to evaluate the role of antioxidants on oxidative stress states and evaluate the magnitude of possible therapeutic effects of these agents. In the present study, the toxic effect of hydrogen peroxide (H₂O₂) and the antioxidative function of vitamin C were investigated using *Saccharomyces cerevisiae* as a model. Results were achieved by exposing the yeast model to different concentrations of H₂O₂ and vitamin C, itself or combined, and colony forming units counting after 48 h incubation at 30°C in Yeast Extract Peptone Dextrose agar plates. The results demonstrated that H₂O₂ exposure decreased yeast cells viability in a dose-dependent manner and that, at an optimal concentration, vitamin C was able to revert its effects. These results improved the understanding of the reversal effect of antioxidant treatment and, therefore, may be helpful on providing insights on a natural antioxidant-based therapy for ND.

Keywords: neurodegenerative diseases, oxidative stress, *Saccharomyces cerevisiae*, vitamin C.