

Analyses of DNA damage in *Saccharomyces cerevisiae* mutant strains affected in the cell integrity (PKC) signaling pathway

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The PKC signaling pathway is known to be related to genome integrity. Inclusive, it has already been shown that this pathway transmits information to the nucleus in what concerns genotoxic stress. Although this has been demonstrated it has not been shown that in the absence of a functional PKC pathway cells accumulate DNA damage. This research intends to investigate DNA damage caused by genotoxic stresses, as the one caused by the DNA replication inhibitor drug hydroxyurea, UV radiation and a genotoxic propolis extract, on mutants affected in the PKC pathway. The objective is to test the sensitivity of mutants affected in the genes *BCK1*, *MKK1*, *MKK2* and *SLT2*, all fundamental MAPKs of this pathway. The biological model chosen for these experiments is *Saccharomyces cerevisiae*. As expected the results show higher sensitivity of the mutant strains when exposed to the genotoxicants, when compared to the parental strain, suggesting that PKC-defective mutants have decreased ability to repair DNA damage.