Calcium involvement in response to low pH stress in *Saccharomyces cerevisiae*.

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*Saccharomyces cerevisiae* vegetative growth occurs at a wide range of external pHs (3.0 to 9.0) but it is better at acidic pH than at neutral or alkaline pH. Nevertheless, low pH environment may also be a stress condition that affects yeast cell metabolism. On the other hand, it is well known that the stimuli dependent on calcium signaling mechanism are essential for survival during conjugation and in wide range of processes as ionic stress resistance, cell cycle progression, osmotic shock, as well as ribosomal assembly and protein translation. In this work, we have studied the involvement of calcium in acidic stress response in yeast. The *S. cerevisiae* strain BY4741 transformed with the multicopy pVTU/AEQ plasmid was grown in YPGlucose medium up to OD$_{600nm}$ 1.0 and exposed to different HCl concentrations. The bioluminescent assay (aequorin-based measurements of intracellular Ca$^{2+}$ signatures) was performed as described before (Groppi et al, 2011). A glucose-induced calcium signal was used as control experiment (Bouillet et al, 2012). Our results provide evidence for the involvement of calcium in acidic stress response. Lower pHs (pH ≤ 3.0) seem to quench the luminescence. Our results are consistent with previous reports that show the involvement of ion homeostasis and the cell integrity signaling pathway (PKC) in the resistance to inorganic acids.

Key words: calcium, *Saccharomyces*, acidic stress
Supported by CNPq, FAPEMIG, CAPES, UFOP.