

## THE TRANSCRIPTION OF HEAT SHOCK PROTEINS RESPONDS TO pH AND PHOSPHATE IN *NEUROSPORA CRASSA*

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The adaptability of the fungus *N. crassa* in response to phosphate (Pi) levels includes at least four genes, *nuc-2*, *preg*, *pgov*, and *nuc-1*, involved in a hierarchical relationship. In limiting Pi, the transcription factor *NUC-1* is translocated into the nucleus, activating the expression of genes implicated in the acquisition of Pi. Furthermore, the conserved *pacC* signal transduction pathway mediates metabolic events in fungi ambient pH sensing. We evaluate the response to pH and Pi in the transcription of two heat shock-like proteins of *N. crassa*. Two HSP genes showing low similarity, NCU01499 and NCU09602, were amplified by PCR and cloned. The wild-type and *nuc-1<sup>rip</sup>* strains were grown in limiting Pi conditions, at 30°C, under alkaline or acid pH, and then submitted to heat shock stress at 45°C. The expression of HSP genes were confirmed by *Northern blot* using total RNA. We observed that when *nuc-1* is non functional, it occurs an elevated transcription of NCU01499. Nevertheless, the expression of gene NCU09602 is similar in the wild-type and *nuc-1* mutant, but dependent on the functionality of gene *pacC*.

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