

SUPPRESSION SUBTRACTIVE HYBRIDIZATION ANALYSES IDENTIFIED GENE UP-REGULATED IN THE *paIA1* MUTANT STRAIN OF *Aspergillus nidulans*.

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The pH regulation of gene expression in *A. nidulans* is mediated by gene *pacC*, which encodes a Zn-finger transcription factor. The six *pal* genes (*paIA*, B, C, F, H, and I) are members of a signaling cascade, which promotes the proteolytic activation of PacC in alkaline environment. The PalA protein interacts with the YPXL/I motifs in PacC, what is required for the action of PalB, a calpain-like protease. This model implies that loss-of-function mutation in any of the six *pal* genes shall lead to a wild-type acidic growth phenotype regardless on the ambient pH, what was not observed in the *paIA1* mutant strain. Employing suppression subtractive hybridization, we identified genes up-regulated in the *paIA1* mutant strain of *A. nidulans* grown in low-Pi medium, pH 5.0, whose expression was confirmed by *Northern blotting*, an unexpected result since *paIA1* mutant should have an wild-type behavior at pH 5.0. This result shows a derangement in the gene expression profile at pH 5.0, indicating that *paIA* gene is functional at acidic pH and, therefore, the *paIA1* mutation did not cause an acidic-mimicking phenotype.

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