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## 1-20: Evaluation of cellulolytic filamentous fungi phenotypes using randomly amplified cDNA with RAPD primers

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In recent years, the search for alternative energy sources has demanded a global effort. Due to its abundance, cellulosic biomass stands out, especially when considering agro-industrial residues. However, in order to bio-transform the biomass, the action of an efficient enzyme complex, which includes different cellulases, is necessary. A mutant of *Aspergillus niger* which produces high levels of this complex was obtained at the Fermentative Processes Laboratory of Embrapa Food Technology. In this light, the aim of this study was to evaluate the phenotypes of the mutant and its parental strain in order to determine the regions of the respective genomes that are related to the expression of the cellulolytic complex. For this purpose, the differentially expressed cDNA fragments were obtained by the cDNA-RAPD technique. The total RNA was obtained using solid state fermentation (SSF) by withdrawing samples at different times (0, 24 and 48 hours) for the mutant and the parental strains, followed by cDNA synthesis and cDNA-RAPD using the Operon kit W (OPW). The cDNA-RAPD profile using OPW11 showed a high difference between the mutant and the parental strains after 48 hours of SSF. The data obtained for the enzymes activity clearly demonstrated a correlation with the expression data. Further studies should be carried out in order to sequence the detected 400bp fragment. This way, it is possible to obtain recombinant strains showing overexpression of the cellulolytic complex. In addition, molecular methods can quickly screen for other microorganisms which have potential for the production of these important enzymes.

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