

***Trichoderma harzianum* Secretome : Changes in Response to Different Carbon Sources**

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The fungus *T. harzianum*, a recognized producer of xylanase and cellulases was grown for 9 days in media containing 1% glucose, 1% cellulose, 1% xylan or 1% sugarcane bagasse, in order to determine the influence of carbon source on secretome composition and enzyme activity. Low levels of xylanolytic and cellulolytic activities were detected in the medium supplemented with glucose, indicating a possible constitutive enzyme production. The highest cellulolytic activity was observed when *T. harzianum* was grown in sugarcane bagasse 1%. Zymographic analysis of the same sample allowed *in gel* detection of proteins displaying CMCase activity. The secretome samples firstly were subjected to 2-DE in pH range 3-10 and the resulting profiles showed trails of spots mostly in the acidic range. As expected, glucose medium 2-DE gel displayed the lowest number of spots among the samples due to catabolic repression. 2-DE was also performed in the 4-7 pH range, providing higher spot resolution. Computational image analysis of 4-7 2-DE gels permitted the calculation of the total number of spots in each gel as well as exclusive and matched spots between the different conditions. So far, two proteins were identified by MS/MS in sugarcane bagasse secretome: N-acetyl-glucosaminidase and α -L- arabinofuranosidase. It is expected that the conclusion of secretomic maps can contribute to a better understanding of the expression and secretion mechanisms of *T. harzianum* enzymes and their applications in biotechnological processes.

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