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EXPRESSION OF THE PECTIN METHYLESTERASE GENE IN *ASPERGILLUS NIGER niaD* MUTANT

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The turbidity in fruit juice is not only due to pectic materials but also due to various other materials suspended in a stable colloidal system. However, the clarification is effectively obtained by addition of fungal pectinases. Enzymatic clarification is considered to be the single largest processing aid in the juice industry. Pectinolytic enzymes are produced by a number of filamentous fungi (*Fusarium, Rhizoctonia, Penicillium, Botrytis, Aspergillus,* etc.). The production of any extracellular pectinases are induced by the presence of pectin and pectic acid in the culture medium. Pectin methylesterase (PME; EC 3.1.1.11) belongs to the group of pectic enzymes and catalyzes the hydrolysis of methyl ester groups of galacturonic acid residues of pectin.

Considering the increase demand of pectinases for industrial processes, in this work we have cloned pectin methylesterase (*pme*A) encoding gene in fungus *Aspergillus niger* in order to obtain PME overexpression. A mutant of *Aspergillus niger* NRRL3 defective in nitrate reductase function was transformed with a constructed plasmid carrying a functional *nia*D gene and an *Aspergillus niger* RH 5344 *pme*A gene [1]. The presence of cloned DNA in the genoma of niaD$^+$ transformants was tested by Southern analysis. The PME levels secreted by transformants into de medium was compared with the host strain.

[1] Khanh N.Q., Ruttkowski, E., Leidinger, K., Albrecht, H. and Gottschalk, M. (1991) Characterization and expression of a genomic pectin methyl esterase-encoding gene in *Aspergillus niger*. Gene, 106: 71-77.