Research Article

Molecular Characterization and Enzymatic Activity of *Pichia kudriavzevii* Isolated from *Cucumis sativus* of Malabar Region of Kerala

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Abstract

Aim of the present study was to isolate and identify the fungus from infected fruit of *Cucumis sativus* collected from Malabar region of Kerala. *Pichia kudriavzevii* was isolated from the infected fruit and confirmed by molecular characterization. PCR amplification and internal transcribed spacer region (ITS) confirmed the isolated fungus was *Pichia kudriavzevii* (yHQL113). The result obtained was deposited in the NCBI Gen Bank. Optimum enzyme activity of isolated fungus was studied using starch agar media, CMC-CR media and PSAM media by spectrophotometric method with different temperature. In quantitative analysis, amylase activity was found high (112.9±1.5 µg mL^{-1} min^{-1}) followed by cellulase (109.4 µg mL^{-1} min^{-1}) and pectinase (65.8 µg mL^{-1} min^{-1}). Optimum production of amylase enzyme was higher at 50 C and lower at 30 C whereas cellulase production was found higher at 30 C and lower at 10 C. Pectinase enzyme production was higher at 10 C and lower at 50 C. Results of the study revealed that amylase was widely distributed in *Pichia kudriavzevii.* Hence, this investigation represented the diversification of cell wall degrading enzymes produced by the isolated fungus *Pichia kudriavzevii.*

Key words: *Cucumis sativus,* enzymes, Malabar region*, Pichia kudriavzevii*

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