Title	Beta-amylase expression and starch degradation during banana ripening
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Abstract

Starch is the main form of carbon storage in bananas (*Musa acuminata,* cv. Nanicão) and β-amylase (EC 3.2.1.2) could contribute to starch mobilization during ripening by depolymerizing the α-glucan chains released by the endo-hydrolytic enzymes. This paper reports the cloning of a full-length β-amylase cDNA, along with the activity and expression profiles after treatment with ethylene or its antagonist 1-MCP. According to the results, banana β-amylase activity is highly correlated to a decrease in starch, being primary up-regulated by de novo synthesis. In fruit treated with 1-MCP the amount of β-amylase protein was almost undetectable, even though there was a strong induction of transcription, as a result of the recovering capability for autocatalytic production of ethylene.

Abbreviations: IAA, indole-3-acetic acid; 1-MCP, 1-methylcyclopropene