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Molecular characterization of a cinnamate 4-hydroxylase gene (BoC4H) in Bambusa oldhamii

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Cinnamate 4-hydroxylase catalyzes the hydroxylation of trans-cinnamic acid to yield p-coumaric acid, the second committed step in the biosynthesis of phenylpropanoids. Many secondary metabolites in plants, such as flavonoids, anthocyanins, plant hormones, lignin and phytoalexins. p-Coumaric acid is an antioxidant to remove free radicals and inhibits the growth of Staphylococcus aureus and Escherichia coli. One C4H gene was isolated from green bamboo (Bambusa oldhamii) by PCR-based cloning, namely BoC4H. The open reading frame of BoC4H is 1,524 bp in size, sharing 86% protein sequence identity with rice OsC4H1. BoC4H expression vector was constructed within pPICZA plasmid for expressing in Pichia pastoris. BoC4H is membrane protein. Transmembrane region of BoC4H was removed for creating BoC4H(-26), and whether this soluble protein has enzymatic activity will be examined.

Keywords:
Bambusa oldhamii, cinnamate 4-hydroxylase

Biography

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