

# Genome-wide identification of Dof transcription factors possibly associated with internal browning of postharvest pineapple fruits

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## Abstract

DNA binding with one finger (Dof) proteins, which are a family of plant-specific transcription factors (TFs), play vital roles in diverse biotic and abiotic stress responses in plants. Dof TFs from the genome-wide analysis have performed in some species, but information on Dof TFs in pineapple (*Ananas comosus* L.) fruits during internal browning (IB), which is a postharvest physiological disorder, is lacking. In the present study, we identified 25 putative Dof TFs, that is, designated as AcDof1–AcDof25, which can be classified into seven out of the nine subgroups of the previously characterized Dof proteins, on the basis of the pineapple genome database. Their protein conserved domains displayed similarities to Dof TFs from other plant species. Gene expression profiles indicated that most *AcDof* genes were upregulated during IB. The further subcellular localizations of four Dof proteins (i.e., AcDof1, AcDof11, AcDof19, and AcDof23) were performed by the transient expression assays. To the best of our knowledge, this work is the first to characterize Dof TF family members and report on their possible role in pineapple fruit IB. Our findings should provide valuable information and novel insights into the Dof TF functions.