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Classification and Expression Profiling of Putative R2R3 MYB Genes in Rice

Kim Bong Gyu, Ko Jae Hyung, Min Shin Young, and Ahn Joong-Hoon*

Department of Molecular Biotechnology, Bio/Molecular Informatics Center, Konkuk University, Seoul, Korea (*jhahn@konkuk.ac.kr)

MYB genes, comprising group of related genes found in animal, plant, and fungal genomes, encode common DNA-binding domains composed of one to four repeat motifs. MYB genes containing two repeats (R2R3) constitute largest MYB gene family in plants. R2R3 MYB genes play important roles in regulation of secondary metabolism, control of cell shape, disease resistance, and hormone response. Eight-four R2R3 MYB genes were retrieved from rice genome for functional characterization of MYB genes. Analysis of MYB domains revealed each MYB domain contains three α -helices with regularly spaced tryptophan residues. R2R3 MYB genes were divided into four subfamilies based on phylogenetic analysis result. Real-time PCR analysis of 34 MYB genes revealed 12 MYB genes were highly expressed in seeds than in leaves, whereas 4 genes were highly expressed in leaves.

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