

**CLONING AND EXPRESSION OF TWO COTTON
FIBER cDNAs ENCODING MYB-TYPE PROTEINS**

Chuan-Yu Hsu, Shaohua Yu and Din-Pow Ma

Department of Biochemistry and Molecular Biology

Mississippi State University

Mississippi State, MS

Abstract

Plant MYB-type proteins contain DNA-binding domains which regulate both general and specific gene transcription. Two cotton cDNA clones (GhMYB1 and GhMYB2), which encode MYB-like proteins, have been isolated from 15 DPA (days post-anthesis) fiber mRNAs by using 5' and 3' RACEs (rapid amplification of cDNA ends). The derived amino acid sequences from these two full-length fiber *myb* cDNAs show that the basic N-terminal DNA-binding domains of cotton fiber MYBs are highly homologous to other plant MYB-type proteins. Based on the comparison of cDNA and genomic sequences, each of the two *myb* genes contains two introns located in the coding region of the gene. The expression patterns of these two *myb* genes were studied by Northern blotting analysis using total RNA from different cotton tissues. The GhMYB1 and GhMYB2 cDNAs were cloned into an expression vector, pET-32b(+), and the expressed His-MYB fusion proteins were purified and used for DNA-binding studies.