Molecular Cloning and Expression Analysis of a Cys2/His2 Type Zinc Finger Protein Gene in Upland Cotton

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The zinc finger proteins belong to the largest family of transcription factors. But there is little research of Cys2/His2 type zinc finger proteins in cotton, and there is no submission of correlating ESTs to GenBank. In this study, a full length of one Cys2/His2 type zinc finger protein (GZFP) and its 5 flanking sequence were obtained by RT-PCR and tail PCR. The full length of the coding region is 804 bp and encodes a polypeptide of 268 amino acids with 40% homology to the RBE protein of *Arabidopsis* deposited in the GenBank. It has the conserved zinc finger domain, the leucine rich region at the carboxyl terminus, but no intron in the coding region. GZFP shows greater expression in floral buds, ovaries, petals, and roots than in phloem, xylem, fibers, leaves, and seeds by RT-PCR. Analysis of the 5′ flanking sequence shows that it contains several regulatory elements responsible for pollen and root expression, four core sites required for binding of Dof proteins and four light-regulated elements.