

Identification of Conserved Domains and Motifs for GRF Gene Family

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Abstract : GRF, Growth regulating factor, genes encode a novel class of plant-specific transcription factors. The GRF proteins play a role in the regulation of cell numbers in young and growing tissues and may act as transcription activations in growth and development of plants. Identification of GRF genes and their expression are important in plants to performance of the growth and development of various organs. In this study, to better understanding the structural and functional differences of GRFs family, 45 GRF proteins sequences in *A. thaliana*, *Z. mays*, *O. sativa*, *B. napus*, *B. rapa*, *H. vulgare*, and *S. bicolor*, have been collected and analyzed through bioinformatics data mining. As a result, in secondary structure of GRFs, the number of alpha helices was more than beta sheets and in all of them QLQ domains were completely in the biggest alpha helix. In all GRFs, QLQ, and WRC domains were completely protected except in AtGRF9. These proteins have no trans-membrane domain and due to have nuclear localization signals act in nuclear and they are component of unstable proteins in the test tube.

Keywords : domain, gene family, GRF, motif

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