



Genomics of ERF family transcription factor in plants

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Abstract:

The present study investigated plant-specific transcription factors depend on ecological condition are highly variable and play crucial roles in the productivity survival and reproductive of plants. Plants are subjected to many forms of environmental stress, which can be included in two broad areas: abiotic and biotic. However, plants evolved different mechanisms of tolerance to the stress effects; these mechanisms comprise physiological, molecular, and genetic changes. These responses require expression of stress-responsive genes, which are regulated by transcription factors. The ERF family is a large family of plant-specific transcription factors that share a well-conserved DNA-binding domain. The ERF transcription factor family includes DRE-binding proteins (DREBs), which activate the abiotic stress-response via specific binding to the dehydration-responsive element/C-repeat cis-acting element in their promoters. In this study, we discuss the functions of the ERF family transcription factors in plants response to abiotic stress, with special regulations of two major types DREBs, DREB1/CBF, and DREB2. In this report, comprehensive computational identified ERF family in *Arabidopsis thaliana*, *Oryza sativa*, and *Solanum lycopersicum*. These results will be useful future functional analyses of the ERF family in plants. Therefore, we summarize results bioinformatics



and computational technique to the current knowledge of ERF family in plants.

Biography:

Shouhartha Choudhury has completed his B.Tech, M.Tech in Bioinformatics, and M.Phil in Life Science and Bioinformatics from India, and now pursuing Ph.D. from School of Life Sciences, Department of Biotechnology, Assam University, Silchar-788011 (India)

Recent Publications:

1. Sakuma, Y., et al., *Plant Cell*, 2006.
2. Nakano, T., et al., Genome-wide analysis of the ERF gene family in *Arabidopsis* and rice. *Plant physiology*, 2006. 140(2): p. 411-432.