

Are plant formins integral membrane proteins?

ABSTRACT

A separate subfamily called plant formins exists, and the presence of typical or transmembrane protein sequence motifs in *Arabidopsis* formins suggests a membrane attachment mechanism that may be unique to this species.

INTRODUCTION

The concept of plant formin is used to describe the proteins of plants which have a 'titular' or 'segmented' morphology. This is to say that they are composed of a series of individual membrane protein strands. In the case of various types of plants, the protein strands are arranged in a 'segmented' manner, i.e. they are arranged along the side of the stalk.

Although the concept of plant-protein-segmented structures has been used for over a century, the actual properties of plant formins have been studied only recently. The structure of plant formins has been developed using the use of the electron microscope, which is a highly sensitive tool for studying structure of proteins. The results of this study aim to shed light on the structure of plant formins, by comparing their properties with the structure. Some of the mechanisms that govern cell morphogenesis, such as membrane vesicle transport, are conserved in crown eukaryotes (metazoa, fungi, and plants), while others, like extracellular structures or the specific roles of different Rho-like GTPases, do not. However, other cellular processes, including cytokinesis, frequently engage conserved proteins to perform tasks that are superficially dissimilar due to the limited information available on one or few model organisms. The search for homologous events that lead both results. The formin homology (FH) proteins are essential for the cellular and organismal morphogenesis of metazoa and fungi, as well as for activation and control of cell and tissue polarity, actin, profiling, Rho-like GTPases, SP (SWept1) protein, and SBN11, which are all involved in the localization of yeast formins to cells on the cell surface. This may involve some form of contact with the plasmalemma, while there is no evidence that may suggest either indicating whether they. Although the existence of two *Arabidopsis thaliana* proteins with the formin-homology 2 (FH2) domain has been reported, there is limited information about their function in plants. As all known formins and formins belong to a well-defined family, this class of proteins may be ideal candidate for 'systematic genome sequence' searching. Here, I present the results of such an approach, which have led to the identification of putative plant forMIN genes, as well as the finding that the evolutionarily important for

CONCLUSION

Remarkable conclusions. The *Arabidopsis* genomic and cDNA sequences were analyzed in detail, and it was found to contain eight genes encoding proteins that form a new subfamily of proteins known as formins. This result suggests that at least six of the eight formins in *Arabidopsis* are integral membrane proteins, suggesting cellular localization processes that may be plant-specific and possibly even play roles in communication between formins and extracellular structures.