

Structural Studies of Plant RKIP/PEBP Family Members

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Intracellular signalling is a critical cellular function, and one that is often perturbed in a variety of diseases. The RKIP/PEBP protein family is highly conserved across a wide range of organisms from humans to bacteria and plants. This family is involved in the regulation of kinase signalling pathways. Two members of this family, TFL1 and FT, from *Arabidopsis thaliana* act antagonistically to control meristem fate. However the exact mechanism of their action remains unknown.

To help elucidate the means by which these proteins act, crystallographic studies are being undertaken. While previous work has determined the structures of TFL1 and FT alone, current efforts are focused on extending the structural information to include protein:ligand complexes. This includes complexes of these proteins with phosphorylated amino acid, and attempts to co-crystallise these proteins with their respective protein ligands.

Because of the high level of conservation within the RKIP/PEBP protein family it is hoped that studying the functional mechanism of plant members will help elucidate the action of these proteins in humans, for which crystallisation of their complexes has proven intractable.

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