



ABSTRACT

"A regulatory complex involved in division plane determination at the plant cell's cortex"

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In plant cells, the set up of the various microtubule arrays that follow one another during the cell cycle (cortical interphase array, preprophase band, spindle, phragmoplast) is obviously intimately connected with the cell cycle machinery. However, the activities and signals that coordinate and regulate the transitions of the microtubule cytoskeleton are mostly unknown.

Our recent results have revealed a large regulatory complex (TTP) composed of at least 5 protein partners. The recruitment of the TTP complex to the cytoskeleton, and its activity at the G2/M transition are necessary for division plane determination and PPB formation in *Arabidopsis* and moss. This complex also plays a pivotal role in the organization of the interphase array during diffuse growth. Interestingly enough, most proteins involved in the TTP complex have similarities with proteins involved in the centrosome of animal cells, providing the first evidence of an evolutionary link between the animal centrosome and the cortical cytoskeleton of acentrosomal plant cells.