Abstract

The ARP2/3 complex is an evolutionarily conserved protein complex involved in actin nucleation. In animals, the loss of function of ARP2/3 subunits is usually lethal. In contrast, *arp2/3* plants are viable and exhibit certain morphological defects. One of the characteristic traits of *arp2/3* plants is impaired cell adhesion. This suggests a role for the ARP2/3 complex in plant cell wall secretion, specifically pectins. However, the exact molecular mechanism of ARP2/3 function in this pathway has not been elucidated yet. Preliminary results suggest a possible interaction of ARP2/3 with the secretory pathway proteins GNL1, COPI, and COG. This work combines two methods – TIRFM/VAEM and co-immunoprecipitation – to study the interaction of ARP2/3 with selected markers. However, neither colocalization nor physical interaction was demonstrated. This work also characterises COPI, COG and GNL1 with TIRFM/VAEM and shows that there is an interaction between GNL1 and endocytic markers.

Key words: ARP2/3, COPI, COG, GNL1, secretory pathway