

## **ABSTRACT**

Exocyst is a protein complex involved in tethering of secretory vesicles to cytoplasmic membrane before SNARE-mediated fusion event. Its presence and function in secretory pathway has been confirmed in yeasts, animals and plants. This thesis describes some properties of Sec5, one of the exocyst subunits, in plant model *Arabidopsis thaliana*. Microscopic methods, including VAEM/TIRF microscopy, were used to study subcellular localization and dynamics of Sec5-GFP fusion protein. Sec5 is cytoplasmic protein that also localizes to cytoplasmic membrane, particularly in cells with high secretory activity. It strongly localizes to maturing cell plates during late cytokinesis and its localization to cytoplasmic membrane partially depends on actin cytoskeleton. Generally, obtained results are in agreement with corresponding observations of behavior of other exocyst subunits in plant cells, suggesting, that Sec5 executes its function as part of the exocyst complex.