Abstract

Plants as sessile organisms are strongly affected by abiotic and biotic stress factors. Thus, they have developed an array of morfological, biochemical and physiological adaptations to reduce the negative effects of these factors. The membrane trafficking, among others, plays very important role in adaptation to abiotic stress. In my bachelor thesis I have focused on two important protein families involved in this trafficking, namely on RAB GTPases and SNARE proteins. In the first part, the phenomenon of stress is characterized and the strategies how plants cope with the effect of stressors are described, especially the production of reactive oxygen species (ROS) and autophagy. Following chapter deals with an introduction to the membrane trafficking in plants. In the rest of the thesis, I characterize RAB GTPases and SNARE proteins and provide contemporary insight in the mechanism of their function. The aim of the key parts of these chapters is to summarize current knowledge of RAB GTPases´ and SNARE proteins´ functions in post-Golgi trafficking pathways during response to abiotic stressors or secondary oxidative stress.

Key words: plants, abiotic stress, membrane trafficking, secretion, endocytosis, vacuole, RAB GTPases, SNARE proteins