

The thesis deals with a question of redundancy in plant actin isotypes, especially in a case of *Arabidopsis thaliana*. Available proofs both confirm and disprove the redundancy of actin isotypes. Similarities and differences in gene structure are considered, as well as gene and protein sequence, expression, expression regulation and function. Despite conserved features as the gene structure, protein sequence, or higher similarity among orthologues than paralogues, there are differences in actin gene families such as the regulation of genes expression, the structure and function of non-coding sequences, or expression patterns. Moreover, actin isotypes divergetion times correlate with important events in plant evolution history. The thesis also deals with diverse functions of actin isotypes in plants. In addition, directions for future research are provided as well.