

Abstract (anglicky)

Alba-family proteins were identified in Archaea and Eucarya and are classified among the oldest and the most conserved nucleic acid-binding proteins. The binding preferences and roles differ among certain evolution clades. In Crenarchaea they represent chromatin-binding proteins, while their role in RNA metabolism is suggested in Euryarchaea and Eukaryotes. ALBA proteins are well characterized in human, where they play a role in the RNase P/MRP complex and in unicellular parasites, such as *Plasmodium* and *Trypanosoma*, where an involvement in the life cycle regulation is confirmed. In plants, their role is not yet well understood. The aim of this thesis is to increase a knowledge about the Alba-family proteins in the model plant *Arabidopsis thaliana*.

Based on a minimal changes to development and reproduction in single mutants and high sequence similarity, a functional redundancy of the proteins was assumed. For better understanding of the ALBA proteins function, three smaller members of the family were edited by the same method. The obtained triple mutant showed delay in flowering. ALBA dimer formation was confirmed in many organisms. BiFC method was used to determine Arabidopsis ALBA homodimerization. The data analysis showed potential homodimerization in most of them.