

Annotation

AGO-hook domains present in some eucaryotic proteins are crucial for a binding family of ARGONAUTE proteins (AGO). These AGO proteins are essential in many biological processes regulating gene expression by small RNA (sRNA), which is complementary to the gene that is supposed to be influenced. This thesis claims to find the function of the putative AGO-hook domain of the protein SPT6L. SPT6L is an elongation factor and histone chaperon of a complex of RNA polymerase II (Pol II) where it is acting in the epigenetic marking of histones. SPT6L of *Arabidopsis thaliana* is one of two paralogues of SPT6 proteins, that is characteristic of the presence of the AGO-hook domain. This is a plant specificity of this protein. What's more, the function of this domain remains unknown. Despite this, it could be assumed that this domain is necessary for binding of AGO proteins in the complex of Pol II, and by these interactions, it can enable guidance of regulation of chromatin modification, or it can co-transcriptionally influence nascent transcripts of Pol II by the sRNA.

This thesis casts light on the function of the AGO-hook domain of SPT6L in *A. thaliana* in processes of gene regulation and protein interactions. It claims to confirm the interaction of the AGO-hook domain of SPT6L protein with AGO proteins and its influence on gene expression and transcript processing.

Keywords

SPT6L, AGO-hook, transcription, chromatin, *Arabidopsis thaliana*