

# TELOMERES AND TELOMERASE IN PLANT CELLS

## Summary

Both in plants and animals cells several similarities in structure and function of telomere complex are observed. Telomere complex consists of DNA, proteins and telomerase. Telomeres are the special structures composed of proteins and tandem repeated DNA sequences, localized at the physical end of eukariotic chromosomes. They carry out many important functions in the cells. The most important of their role is to protect the genome from potential instability. While the telomeric DNA sequence is relatively highly conserved even among evolutionarily

distant organisms, telomeric protein complex has a great diversity. Telomerase interacts with telomeres. This enzyme has a reverse transcriptase activity and based on its own RNA template adds telomeric sequences at the ends of chromosomes. There are lots of indications that telomere complex participates in the plant cells aging process. But so far this hypothesis has not been fully verified. Knowledge in the field of structure and function of telomeres and telomerase in plant cells still remains far behind that achieved in mammalian cells.