

# *CHLAMYDOMONAS REINHARDTII* – A MODEL ORGANISM IN RESEARCH OF CELL, MITOCHONDRIAL AND CHLOROPLAST CYCLE

## Summary

The relative ease of culture, a short cell cycle, known whole genome sequence and a large number of different types of *Chlamydomonas reinhardtii* mutants, make this unicellular green alga a very attractive model organism for studies of the development and functioning of cell. The structure of nuclear and chloroplast genome of *C. reinhardtii* is more resembling genomes of vascular plants than simple eukaryotes. Mitochondrial

genome of this organism is one of the smallest in plants and occurs as a linear, double-stranded molecule. Known whole genome sequence and the possibility of their transformation have allowed *Chlamydomonas reinhardtii* to become a highly valuable model for molecular approaches of cell cycle regulation and relationship between the cell, mitochondrial and chloroplast cycle.