

## **Abstract**

Programmed DNA elimination (PDE) is a process in which a part of genetic information is eliminated from the organisms genome. It can be found in both plants and animals. There is a difference in the genetic information eliminated depending on the species. There are some organisms that eliminate only parts of their chromosomes, others that eliminate whole chromosomes and in hybrid organisms one whole parental genome is eliminated. In somatic cells PDE usually takes place during early embryogenesis. If the genome being eliminated comes from the germline cells, PDE takes place during gametogenesis. The function and mechanisms of PDE differs inbetween the species. It is most often connected with soma and germ cell differentiation, sex determination in animals and haploid gamete production in hybrid species. Mechanisms frequently include epigenetic modifications of DNA destined for elimination or production of micronuclei (MN) with the eliminated DNA inside. This work summarizes these functions and mechanisms and provides examples.

**Key words:** programmed DNA elimination, chromatin diminution, chromosomal elimination, hybridogenesis, micronuclei, epigenetic modifications, Germ1, GRC