THE HUMAN MITOCHONDRIAL GENOME

Summary

The human mitochondrial genome is a small 16.5 kb circular double-stranded DNA molecule containing 37 genes. Mutations in this DNA can lead to various diseases, and the mitochondrial DNA (mtDNA) genome which is maternally inherited has been very often used in studies on human evolution. Mitochondria of all humans appear to originate from one woman who lived in Africa about 180000 years ago. Various parts of the mtDNA may not evolve at the same rate, and the different mitochondrial DNA haplogroups may not be totally functionally equivalent, raising questions as to the involvement of mitochondria in various human diseases and the process of aging.