

Abstract

Gene manipulations in invertebrates are based on the same approaches used in vertebrates. They are applied for the development of new genotypes in model species, convenient as model systems of human hereditary diseases etc. Gene manipulations are important as well for practical purposes, which is shown by the example of transgenic mosquitoes. Recently, it has been proved that programmable nucleases can be successfully used in invertebrates.

Key words: Gene manipulations, invertebrates, methods, applications, *Drosophila melanogaster*, *Anopheles*, *Bombyx mori*, malaria