Abstract

*Leishmania major* is an intracellular parasite which often successfully multiplies and disseminates in a body of the host thanks to strategies that help it to escape the components of immune system of the host organism. Thus, the parasites evoke an impairment of regulatory pathways that in physiological conditions lead to an expression of genes involved in a response to *L. major* and its efficient elimination. Gene targeted deletion, also called gene knock-out, can result in phenotypic alteration and associated enhanced susceptibility or resistance of the host. Although such detected genes do not have to signify their variability in population and hence they may not be responsible for the worsened outcome of leishmaniasis of some people necessarily, studies in which they are analysed and general knowledge being also a subject of this thesis help us together with techniques of forward genetics to reveal the biochemical pathways during the infection and their elements that influence the outcome of the disease and might be useful for researches of new medicine drugs or gene therapy.