Abstract

Pathogenic bacterium *Legionella pneumophila* is the main causative agent of Legionnaire's disease. Bacterium infects broad spectrum of unicellular organisms apart from human alveolar macrophages. When inside the host cell it multiplies within so-called LCV (Legionella Containing Vacuole), which is built from the phagosome. To prevent the fusion of LCV with the lysosomes and subsequent degradation inside the host cell, obtaining nutrients and successful multiplying, *L. pneumophila* secrets effector proteins via the Dot/Icm (Type IV secretion system), which modulate normal processes within the host. Almost 300 effectors have been identified so far, many of which contain eukaryote-specific domains. Acquisition of these domains is probably due to the long co-evolution with many different eukaryotic hosts. Several of these proteins affect host endomembrane system. Main objective of this master thesis is *Lp*SNARE, effector and exclusive protein in prokaryotic kingdom, which was found at our laboratory. Many bacteria can mimic SNAREs, but here we present the first discovery of true eukaryotic SNARE in prokaryotes. We endeavour to determine the role of *Lp*SNARE in the pathogenicity of bacterium in the course of the experimental work. Our additional goal is the characterization of the function of the another recently found effector protein, LncP, member of eukaryotic protein family MCF (Mitochondrial Carrier Family).