

Abstract

Translation belongs to the most basic processes which happens in the living cells. It is the last step of proteosynthesis when genetic information encoded by the mRNA is transformed into the protein on a ribosome. Organisms have developed a wide range of mechanisms that can regulate it's needs. I focused on one of them – ABCF proteins. This protein group is a member of the ABC transporters superfamily but they haven't a transmembrane domain and their purpose is protect the ribosomes from antibiotics that bind 50S ribosomal subunit or interact with the ribosomes and influence ribosomal functions. Today, we can divide ABCF proteins into the two functional groups: antibiotic resistance proteins (ARE) and proteins with the regulatory functions. The translational regulatory function has been confirmed There is 45 ABCF protein subfamilies spread through the bacteriae and eukaryotes but many essential informations like the structure and exact function of them are still missing. My bachelor thesis is analysis and summary of facts that are known about the bacterial ABCF proteins.

Key words: ABCF proteins, antibiotic resistance, ARE, translational regulation, ribosome, translation, translational factors