

Structure and function of the bacterial translation machinery

The ribosome is a large enzyme responsible for translation of the genetic code in all life. We study the interaction of specific combinations of tRNAs and mRNA in the context of the ribosome, trying to understand why there are sometimes deviations from the normal three-base codon size. We are also interested in other protein-RNA complexes related to protein synthesis.



The bacterial ribosome consists of a large (blue, above) and a small (yellow, below) subunit. They both contribute to the three tRNA binding sites. In total the ribosome consists of about 4500 nucleotides and 6000 aminoacids. This picture comes from a recent structure of a complex of the 70S ribosome with mRNA and tRNA ligands (Selmer et al., Science 2006).

Are you interested in doing a project or diploma work in a small group within the large and dynamic Structural Biology program in Cell and Molecular Biology?

There are several different projects available, involving cloning, protein expression and purification, RNA production, biochemistry, crystallization and perhaps crystallography. A project will be centered around a specific complex and mostly consist of lab work, but may also extend to crystallographic data collection and structure analysis.

If you are interested in doing a diploma work or project with me, you are most welcome to come and see me in D11:217e at BMC or to contact me by e-mail.

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