LS09-032 - A tRNA methyltransferase and 5' endonuclease: molecular mechanisms of a multifunctional mitochondrial enzyme

Zusammenfassung

Transfer RNAs, the ubiquitous translational adapters of cellular protein synthesis, are synthesized as immature precursors. They have to undergo a number of processing and modification steps in order to become functional molecules. In human mitochondria, the subcellular factories responsible for energy production, a recently identified, novel type of enzyme complex is responsible for even two of these steps: the removal of extensions at the front end and chemical modification of a certain position within mitochondrial transfer RNA molecules. A subunit of the enzyme is moreover involved in the metabolism of certain amino acids and fatty acids. It is the primary aim of this project to elucidate the molecular-mechanistic basis and evolution of this unparalleled multiplex catalytic ability of an enzyme.

Schlagworte:
tRNA methyltransferase, RNase P, mitochondria, amyloid beta, structural biology, enzymology

---

Principal Investigator:	Walter Rossmanith
Institution:	Medical University of Vienna
Weitere Projektpartner:innen:	Maria Selmer (Uppsala University)



Status: Abgeschlossen (01.01.2010 – 31.12.2013)

Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://www.wwtf.at/funding/programmes/ls/LS09-032/