

Kemijski odsjek
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KOLOKVIJ

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prizemlje zgrade Kemija, Horvatovac 102a, kolokvij pod naslovom

Plant mitochondria RNAs and proteins: extensive exchange with chloroplasts and cytosol

Plant mitochondria contain hundreds of proteins. Most of them are nucleus-encoded and imported into mitochondria, but a few remain encoded by the mitochondrial genome. Two crucial partners of the mitochondrial translation machinery are the **tRNAs and the aminoacyl-tRNA synthetases**. We have demonstrated extensive sharing of tRNAs and aaRSs between mitochondria, chloroplasts and the cytosol.

For a better understanding of these exchanges, we have first explored the signals allowing a **dual localization of proteins in mitochondria and chloroplasts**. Protein import into mitochondria is mainly controlled by peptide sequences. However cytosolic ribosomes and mRNAs were found associated with yeast mitochondria, and a cotranslational protein import model is now emerging in parallel with the classical posttranslational one. We have shown that **targeting of cytosolic mRNAs to the mitochondrial surface** also occurs in plant, and we now investigate the functions of such a targeting.