

SEM/4351



PGS_19_2013

Use of MALDI-TOF for the characterization of metallothionein in biological systems



Laboratoř Metalomiky a Nanotechnologií

Vás zve na seminář k projektu ID 113:

Study of characterization of Zinc-Metallothionein complexes by MALDI-TOF MS

Miguel Angel Merlos Rodrigo

Abstrakt

Zinc is one of the most abundant and important metal ions in biology, playing an indispensable role in a broad range of cellular processes, such as DNA replication and transcription, cell apoptosis, and metabolism. Metallothioneins (MTs) are a ubiquitous group of metalloproteins characterized by their small size, high cysteine content, lack of aromatic amino acids, and their ability to bind a wide range of metal ions. It was isolated from the horse kidney cortex of equines and revealed to have a high affinity to Cd. Mammalian MTs comprise a Zn(3)Cys(9) cluster in the beta domain and a Zn(4)Cys(11) cluster in the alpha domain. They play a crucial role in storing and donating Zn²⁺ ions to target metalloproteins and have been implicated in several diseases. By analytic and spectroscopic techniques were used for study the four Zn(II) complexes of invertebrate MTs (mollusc, insect, nematode, and echinoderm) and the Zn(II)-MT complex of the mammalian MT1 isoform, heterologously synthesized in *E. coli*. Here, Zn-MTs complexes from different mammalian MTs isoforms (human, mouse and rabbit) were studied by electrochemical method and MALDI-TOF/TOF mass spectrometry

13. 3. 2015, od 12:00

Ústav chemie a biochemie, Laboratoř metalomiky a nanotechnologií, Zemědělská 1, 613 00
Brno

Kontakt: kizek@sci.muni.cz

