

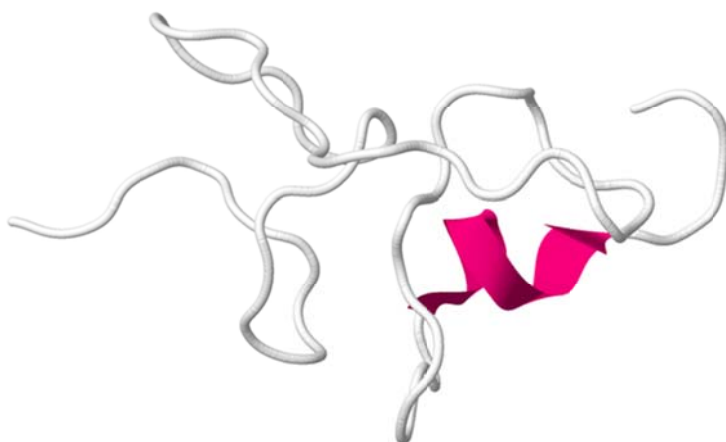


Vás zve na školení:

METALOTHIONEIN

Anotace/Annotation

Metallothionein (MT) is a family of cysteine-rich, low molecular weight (MW ranging from 500 to 14000 Da) proteins. They are localized to the membrane of the Golgi apparatus. MTs have the capacity to bind both physiological (such as zinc, copper, selenium) and xenobiotic (such as cadmium, mercury, silver, arsenic) heavy metals through the thiol group of its cysteine residues, which represents nearly the 30% of its amino acidic residues.^[2]



Jmol

MT was discovered in 1957 by Vallee and Margoshe from purification of a Cd-binding protein from horse (equine) renal cortex.^[3] MTs function is not clear, but experimental data suggest MTs may provide protection against metal toxicity, be involved in regulation of physiological metals (Zn and Cu) and provide protection against oxidative stress. There are four main isoforms expressed in humans (family 1, see chart below): MT1 (subtypes A, B, E, F, G, H, L, M, X), MT2, MT3, MT4. In the human body, large quantities are synthesised primarily in the liver and kidneys. Their production is dependent on availability of the dietary minerals, as zinc, copper and selenium, and the amino acids histidine and cysteine.

Program

10:00- 11:30 Metalothionein a jeho vztah k rakovině

Vojtěch Adam

11:30- 12:30 Metalothionein a jeho vztah k redoxnímu metabolismu





Branislav Ruttkay-Nedecký

12:30 – 13:30 přestávka

13:30 – 14:30 Elektrochemická analýza interakce metalothioneinu s kvantovými tečkami
Kateřina Tmejová

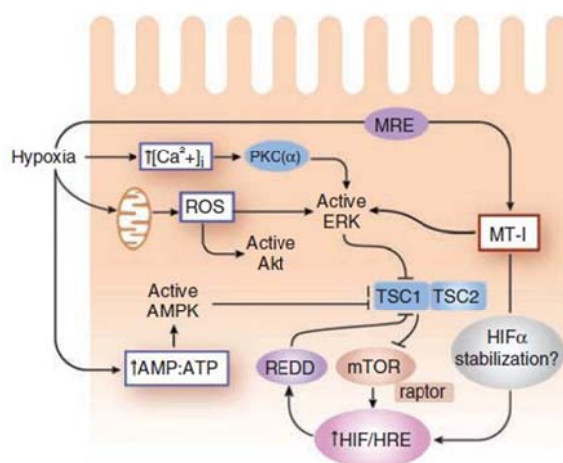
14:30 – 16:00 Elektrochemická analýza interakce metalothioneinu s doxorubicinem
Kateřina Tmejová

16:00 – 16:30 přestávka

16:30 – 17:30 Polymerázová řetězová reakce genů pro metalothionein
Petr Michálek

17:30 – 18:30 Změny exprese hladiny metalothioneinu u žížal tvořících kvantové tečky
Petr Michálek

18:30- 19: 00 diskuse a závěr, předání certifikátů
René Kizek



31. 01. 2014, začátek v 10:00 h

Laboratoř metalomiky a nanotechnologií

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