CZ.1.07/2.3.00/20.0148 NANOLABSYS
Mezinárodní spolupráce v oblasti „*in vivo*“ zobrazovacích technik
Laboratoř Metalomiky a Nanotechnologií

Vás zve na seminář:

Interaction study of arsenic(III) ions with METALLOTHIONEIN GENE (MT2a) fragment assessed by spectrometry and electrochemistry

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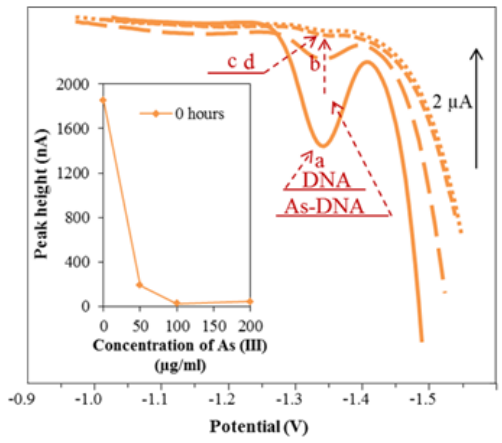
Abstrakt

Interactions between As(III) and metallothionein gene Mt2A were monitored using UV/vis spectrophotometry, atomic absorption spectrometry, electrochemical measurements and agarose gel electrophoresis. By application of the mentioned methods it was observed the As(III) forms the stable structure with DNA in the concentration range of As(III) 0.4 – 6.25 µg/ml. The higher concentration of As(III) caused the DNA degradation.



The As-DNA interaction was proved using square wave voltammetry (SWV). First reports about electrochemical reduction and oxidation signal of nucleic acids were published at the end of 1950s and in the beginning of 1960s. It was pointed out that these signals are due to residues of bases in DNA. Adenine and cytosine in DNA yielded reduction signals (CA peak). As-DNA was demonstrated due to the significant change of CA peak with increasing concentrations of As(III) from control DNA. Using this method, it was proven that the studied concentration of As(III) played an important role (RSD 6%) in the DNA damage.

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