

EQCM biosensors based on DNA aptamers and antibodies for rapid detection of prions

Hianik T., Porfireva A., Grman I., Evtugyn G.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Novel affinity biosensors for detecting cellular prions, PrPc, based on DNA aptamers and antibodies immobilized onto the carbon nanotubes have been designed and compared in accordance with their binding ability and analytical performance. The biosensors allowed us to detect PrPc with the limits of detection of 20 to 50 pM. © 2009 Bentham Science Publishers Ltd.

<http://dx.doi.org/10.2174/092986609787848090>

Keywords

Antibodies, Biosensor, DNA aptamers, Electrochemical quartz crystal microbalance, Multiwalled carbon nanotubes, Prion proteins