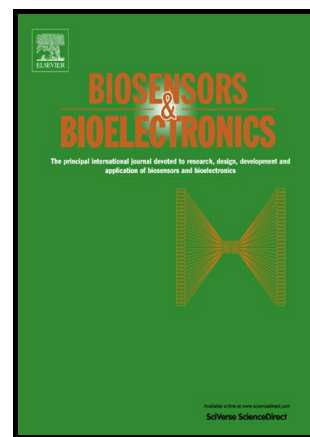


Author's Accepted Manuscript

NANOMATERIALS-BASED ENZYME
ELECTROCHEMICAL BIOSENSORS
OPERATING THROUGH INHIBITION FOR
BIOSENSING APPLICATIONS

Sevinc Kurbanoglu, Sibel A. Ozkan, Arben
Merkoçi



PII: S0956-5663(16)30977-0
DOI: <http://dx.doi.org/10.1016/j.bios.2016.09.102>
Reference: BIOS9214

To appear in: *Biosensors and Bioelectronic*

Received date: 17 June 2016
Revised date: 20 September 2016
Accepted date: 26 September 2016

Cite this article as: Sevinc Kurbanoglu, Sibel A. Ozkan and Arben Merkoçi
NANOMATERIALS-BASED ENZYME ELECTROCHEMICAL
BIOSENSORS OPERATING THROUGH INHIBITION FOR BIOSENSING
A P P L I C A T I O N S , *Biosensors and Bioelectronic*
<http://dx.doi.org/10.1016/j.bios.2016.09.102>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain

**BIOSENSORS OPERATING THROUGH INHIBITION FOR
BIOSENSING APPLICATIONS**Sevinc Kurbanoglu^{a,b}, Sibel A. Ozkan^b, Arben Merkoçi^{a,c*}

^aNanobioelectronics & Biosensors Group, Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and The Barcelona Institute of Science and Technology, Campus UAB, 08193, Bellaterra, Barcelona, Spain

^bAnkara University, Faculty of Pharmacy, Department of Analytical Chemistry, 06100, Tandogan, Ankara, Turkey

^c ICREA, Pg. Lluís Companys 23, 08010 Barcelona, Spain

*Corresponding author. arben.merkoci@icn2.cat

Abstract

In recent years great progress has been made in applying nanomaterials to design novel biosensors. Use of nanomaterials offers to biosensing platforms exceptional optical, electronic and magnetic properties. Nanomaterials can increase the surface of the transducing area of the sensors that in turn bring an increase in catalytic behaviors. They have large surface-to-volume ratio, controlled morphology and structure that also favor miniaturization, an interesting advantage when the sample volume is a critical issue. Biosensors have great potential for achieving detect-to-protect devices: devices that can be used in detections of pollutants and other treating compounds/analytes (drugs) protecting citizens' life. After a long term focused scientific and financial efforts/supports biosensors are expected now to fulfill their promise such as being able to perform sampling and analysis of complex samples with interest for clinical or environment fields. Among all types of biosensors, enzymatic biosensors, the most explored biosensing devices, have an interesting property, the inherent inhibition phenomena given the enzyme-substrate complex formation. The exploration of

Download English Version:

<https://daneshyari.com/en/article/5031431>

Download Persian Version:

<https://daneshyari.com/article/5031431>

[Daneshyari.com](https://daneshyari.com)