

Accepted Manuscript

Title: Fabrication of an amperometric sarcosine biosensor based on sarcosine oxidase/Chitosan/CuNPs/c-MWCNT/Au electrode for detection of prostate cancer

Authors: Vinay Narwal, Parveen Kumar, Pooja Joon, C.S. Pundir



PII: S0141-0229(18)30077-2
DOI: <https://doi.org/10.1016/j.enzmictec.2018.02.010>
Reference: EMT 9187

To appear in: *Enzyme and Microbial Technology*

Received date: 12-8-2017
Revised date: 26-2-2018
Accepted date: 27-2-2018

Please cite this article as: Narwal Vinay, Kumar Parveen, Joon Pooja, Pundir C.S. Fabrication of an amperometric sarcosine biosensor based on sarcosine oxidase/Chitosan/CuNPs/c-MWCNT/Au electrode for detection of prostate cancer. *Enzyme and Microbial Technology* <https://doi.org/10.1016/j.enzmictec.2018.02.010>

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 proof before it is published in its final 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.

Fabrication of an amperometric sarcosine biosensor based on sarcosine oxidase/Chitosan/CuNPs/c-MWCNT/Au electrode for detection of prostate cancer

Running title: Amperometric determination of sarcosine

Vinay Narwal¹, Parveen Kumar², Pooja Joon³ and C.S.Pundir^{1*}

¹Department of Biochemistry, M.D. University, Rohtak (Haryana) India

²Department of Zoology, M.D. University, Rohtak (Haryana) India

³Deen Bandhu Chhotu Ram University of Science and Technology, Murthal, Sonapat (Haryana) India

Corresponding author: Email:chandrapundir@gmail.com; Mob:+91-9416492413

Highlights

- Constructed an improved amperometric sarcosine biosensor based on covalent immobilization of SarOx onto CHIT/CuNPs/c-MWCNT/Au electrode.
- The biosensor showed optimum current within 2 s, at 0.5V, pH 7.0 and temp 35°C.
- The limit of detection and working range of biosensor were 0.1pM and 0.1- 100 µM respectively.
- Biosensor measured sarcosine in sera, which were significantly higher in prostate cancer patients compared to apparently healthy persons.
- The biosensor was evaluated and compared with earlier sensors.

Download English Version:

<https://daneshyari.com/en/article/6488129>

Download Persian Version:

<https://daneshyari.com/article/6488129>

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