

## Accepted Manuscript

Electrochemical DNA Biosensor for Potential Carcinogen Detection in Food Sample

Nor Diyana Md. Sani, Lee Yook Heng, Radha Swathe Priya Malon Marugan, Nor Fadilah Rajab

PII: S0308-8146(18)31174-9

DOI: <https://doi.org/10.1016/j.foodchem.2018.07.035>

Reference: FOCH 23150

To appear in: *Food Chemistry*

Received Date: 19 January 2017

Revised Date: 7 September 2017

Accepted Date: 4 July 2018

Please cite this article as: Sani, N.D.M., Heng, L.Y., Marugan, R.S.P., Rajab, N.F., Electrochemical DNA Biosensor for Potential Carcinogen Detection in Food Sample, *Food Chemistry* (2018), doi: <https://doi.org/10.1016/j.foodchem.2018.07.035>

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.



# Electrochemical DNA Biosensor for Potential Carcinogen Detection in Food Sample

Nor Diyana Md. Sani<sup>\*</sup>, Lee Yook Heng, Radha Swathe Priya Malon Marugan, Nor Fadilah Rajab<sup>2</sup>

<sup>1</sup>*School of Chemistry and Food Science, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, 43650 Bandar Baru Bangi Selangor Darul Ehsan, Malaysia*

<sup>2</sup>*School of Biomedical Sciences, Faculty of Health Science, Universiti Kebangsaan Malaysia, 43650 Bandar Baru Bangi Selangor Darul Ehsan, Malaysia*

Email: [leeyookheng@yahoo.co.uk](mailto:leeyookheng@yahoo.co.uk), [radhaswathepriya@gmail.com](mailto:radhaswathepriya@gmail.com), [nfadilah@medic.ukm.my](mailto:nfadilah@medic.ukm.my)

\*Corresponding Author: Tel: +6017-3660505. Email : [diyanasani@yahoo.com](mailto:diyanasani@yahoo.com),

## Highlights

A novel electrochemical DNA biosensor was constructed for detecting the presence of carcinogens in food samples:

- A comparison study using three different DNA sequences was performed to prove the effectiveness of guanine rich DNA sequence for optimal binding with carcinogens.
- The DNA was immobilized onto silica nanospheres/gold nanoparticles modified screen-printed electrode.
- The biosensor was used to detect two carcinogens, namely formaldehyde and acrylamide.
- The applicability of the biosensor was evaluated on real food samples and compared using standard Ames test.

Download English Version:

<https://daneshyari.com/en/article/7584320>

Download Persian Version:

<https://daneshyari.com/article/7584320>

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