

Author's Accepted Manuscript

Enzyme- and label-free electrochemical aptasensor for kanamycin detection based on double stir bar-assisted toehold-mediated strand displacement reaction for dual-signal amplification

Feng Hong, Xixue Chen, Yuting Cao, Youren Dong, Dazhen Wu, Futao Hu, Ning Gan



www.elsevier.com/locate/bios

PII: S0956-5663(18)30277-X
DOI: <https://doi.org/10.1016/j.bios.2018.04.017>
Reference: BIOS10413

To appear in: *Biosensors and Bioelectronic*

Received date: 20 November 2017

Revised date: 20 March 2018

Accepted date: 7 April 2018

Cite this article as: Feng Hong, Xixue Chen, Yuting Cao, Youren Dong, Dazhen Wu, Futao Hu and Ning Gan, Enzyme- and label-free electrochemical aptasensor for kanamycin detection based on double stir bar-assisted toehold-mediated strand displacement reaction for dual-signal amplification, *Biosensors and Bioelectronic*, <https://doi.org/10.1016/j.bios.2018.04.017>

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.

Enzyme- and label-free electrochemical aptasensor for kanamycin detection based on double stir bar-assisted toehold-mediated strand displacement reaction for dual-signal amplification

Feng Hong^a, Xixue Chen^a, Yuting Cao^{a,*}, Youren Dong^a, Dazhen Wu^a, Futao Hu^b, Ning Gan^{a,*}

^aFaculty of material science and chemical engineering, Ningbo University, Ningbo, China, 315211.

^bFaculty of marine, Ningbo University, Ningbo, China, 315211.

ganning@nbu.edu.cn

caoyuting@nbu.edu.cn

*Corresponding author: Ning Gan, Yuting Cao, Tel: +86-574-87609987; Fax: +86-574-8760998

ABSTRACT

It is critically important to detect antibiotic residues for monitoring food safety. In this study, an enzyme- and label-free electrochemical aptasensor for antibiotics, with kanamycin (Kana) as a typical analyte, was developed based on a double stir bar-assisted toehold-mediated strand displacement reaction (dsB-TMSDR) for dual-signal amplification. First, we modified two gold electrodes (E-1 and E-2) with different DNA probes (S1/S2 hybrid probe in E-1 and DNA fuel strand S3 in E-2). In the presence of Kana, an

Download English Version:

<https://daneshyari.com/en/article/7229300>

Download Persian Version:

<https://daneshyari.com/article/7229300>

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