

Accepted Manuscript

Title: The development and analyses of several Gram-negative arsenic biosensors using a synthetic biology approach

Authors: Lara Bereza-MalcolmAuthors, Sanja Aracic, Gülay Mann, Ashley E. Franks



PII: S0925-4005(17)31968-8
DOI: <https://doi.org/10.1016/j.snb.2017.10.068>
Reference: SNB 23372

To appear in: *Sensors and Actuators B*

Received date: 4-8-2017
Revised date: 13-10-2017
Accepted date: 13-10-2017

Please cite this article as: Lara Bereza-MalcolmAuthors, Sanja Aracic, Gülay Mann, Ashley E. Franks, The development and analyses of several Gram-negative arsenic biosensors using a synthetic biology approach, *Sensors and Actuators B: Chemical* <https://doi.org/10.1016/j.snb.2017.10.068>

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.

Title: The development and analyses of several Gram-negative arsenic biosensors using a synthetic biology approach

Authors' names: Lara Bereza-Malcolm¹, Sanja Aracic¹, Gülay Mann² and Ashley E. Franks^{1*}

¹ Applied and Environmental Microbiology Laboratory, Department of Physiology, Anatomy and Microbiology, Plenty Road, La Trobe University, Melbourne, Victoria 3086, Australia;

² Land Division, Defence Science and Technology Group, Melbourne, Victoria, Australia

E-mails: ltbereza-malcolm@students.latrobe.edu.au(L.B.M.);
sa.aracic@gmail.com.au(S.A.);gulaymann@gmail.com(G.M)
A.Franks@latrobe.edu.au (A.E.F.);

* Correspondence: Associate Professor Ashley E. Franks; A.Franks@latrobe.edu.au;
Tel.: +613-9479-2206; Fax: +613-9479-1222.

Highlights:

- Two arsenic biosensor constructs were developed; on a low and high copy number plasmid
- Several Gram-negative arsenic biosensors were developed allowing comparative analyses
- Plasmid copy number and growth phase did not significantly affect *E. coli* DH5 α detection limits
- Detection limits and induction times varied between the arsenic biosensors
- Microbial biosensor functionality was hypothesized to be effected by multiple factors

Download English Version:

<https://daneshyari.com/en/article/7141302>

Download Persian Version:

<https://daneshyari.com/article/7141302>

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