

## Accepted Manuscript

Title: *Shewanella putrefaciens* CN32 outer membrane cytochromes MtrC and UndA reduce electron shuttles to produce electricity in microbial fuel cells

Authors: Xian Wu, Long Zou, Yunhong Huang, Yan Qiao, Zhong-er Long, Haoping Liu, Chang Ming Li



PII: S0141-0229(18)30159-5  
DOI: <https://doi.org/10.1016/j.enzmictec.2018.04.005>  
Reference: EMT 9201

To appear in: *Enzyme and Microbial Technology*

Received date: 12-9-2017  
Revised date: 17-3-2018  
Accepted date: 6-4-2018

Please cite this article as: Wu Xian, Zou Long, Huang Yunhong, Qiao Yan, Long Zhong-er, Liu Haoping, Li Chang Ming. *Shewanella putrefaciens* CN32 outer membrane cytochromes MtrC and UndA reduce electron shuttles to produce electricity in microbial fuel cells. *Enzyme and Microbial Technology* <https://doi.org/10.1016/j.enzmictec.2018.04.005>

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.

# ***Shewanella putrefaciens* CN32 outer membrane cytochromes MtrC and UndA reduce electron shuttles to produce electricity in microbial fuel cells**

Xian Wu<sup>a,1</sup>, Long Zou<sup>a,1,\*</sup>, Yunhong Huang<sup>a</sup>, Yan Qiao<sup>b,\*</sup>, Zhong-er Long<sup>a</sup>, Haoping Liu<sup>a</sup>, Chang Ming Li<sup>b,c</sup>

<sup>a</sup>*College of Life Science, Jiangxi Normal University, Nanchang 330022, China.*

<sup>b</sup>*Institute of Clean Energy & Advanced Materials, Faculty of Materials and Energy, Southwest University, Chongqing 400715, China.*

<sup>c</sup>*Institute of Materials Science and Devices, Suzhou University of Science and Technology, Suzhou 215011, China.*

\*Corresponding authors.

E-mail address: zoulong@jxnu.edu.cn (L. Zou) and yanqiao@swu.edu.cn (Y. Qiao).

<sup>1</sup> These authors contributed equally to this work.

## **Highlights**

- Functions of *c*-Cyts MtrC and UndA were investigated via in-frame gene deletion.
- Deletion of *mtrC* gene severely depressed MFC start-up and electricity production.
- MtrC might be the primary reductase towards electron shuttles.
- Flavins-mediated electron transfer is the key factor to MFC performance.

Download English Version:

<https://daneshyari.com/en/article/6488093>

Download Persian Version:

<https://daneshyari.com/article/6488093>

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