

Accepted Manuscript

Selective natural induction of laccases in *Pleurotus sajor-caju*, suitable for application at a biofuel cell cathode at neutral pH

Oleksandra Fokina, Jens Eipper, Sven Kerzenmacher, Reinhard Fischer

PII: S0960-8524(16)30950-6
DOI: <http://dx.doi.org/10.1016/j.biortech.2016.06.126>
Reference: BITE 16748

To appear in: *Bioresource Technology*

Received Date: 13 May 2016
Revised Date: 28 June 2016
Accepted Date: 29 June 2016



Please cite this article as: Fokina, O., Eipper, J., Kerzenmacher, S., Fischer, R., Selective natural induction of laccases in *Pleurotus sajor-caju*, suitable for application at a biofuel cell cathode at neutral pH, *Bioresource Technology* (2016), doi: <http://dx.doi.org/10.1016/j.biortech.2016.06.126>

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.

Selective natural induction of laccases in *Pleurotus sajor-caju*, suitable for application at a biofuel cell cathode at neutral pH.

Oleksandra Fokina^a, Jens Eipper^b, Sven Kerzenmacher^b and Reinhard Fischer^{a*}

^a Institute for Applied Biosciences - Department of Microbiology, Karlsruhe Institute of Technology (KIT), D-76187 Karlsruhe, Germany

^b Laboratory for MEMS Applications, IMTEK - Department of Microsystems Engineering, University of Freiburg, D-79110 Freiburg, Germany

*Corresponding author. Karlsruhe Institute of Technology (KIT), Institute for Applied Biosciences, Department of Microbiology, Hertzstrasse 16 / B. 06.40, D-76187 Karlsruhe, Germany. E-mail address: Reinhard.fischer@kit.edu (Reinhard Fischer)

Abstract

Laccases are multicopper oxidoreductases with broad substrate specificity and are applied in biofuel cells at the cathode to improve its oxygen reduction performance. However, the production of laccases by e.g. fungi is often accompanied by the need of synthetic growth supplements for increased enzyme production. In this study we present a strategy for the white-rot fungus *Pleurotus sajor-caju* for natural laccase activity induction using lignocellulose substrates and culture supernatant of *Aspergillus nidulans*. *P. sajor-caju* laccases were secreted into the supernatant, which was directly

Download English Version:

<https://daneshyari.com/en/article/7070641>

Download Persian Version:

<https://daneshyari.com/article/7070641>

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