



LIFE SCIENCES

- Animal Physiology/ Zoology
- Biochemistry
- Bioinformatics/ Biocomputing/ Computational Biology
- BioMathematics
- Biophysics
- Biotechnology
- Cancer Research
- Cell and Molecular Biology/ Genetics and Genomics/ Structural Biology
- Cognitive Science
- Ecology
- Evolution Biology
- General
- Human Biology
- Immunology
- Microbiology/ Virology Research
- Neurobiology
- Plant Science and Agriculture Science
- Stem Cells Research
- Tissue Engineering

- New Titles
- August Bestsellers
- Editor's Choice
- Nobel Lectures
- Textbooks
- Recent Reviews
- Book Series
- Related Journals
 - Journal of Bioinformatics and Computational Biology (JBCB)
 - Medical and Life Sciences Journals
- Request for related catalogues

PRODUCTS

- Journals
- eBooks
- Journals Archives
- eProceedings

RESOURCES

- For Librarians
- For Authors
- For Booksellers
- For Translation Rights
- About Us
- Contact Us
- How to Order
- News
- Inspection Copy

CURRENT RESEARCH TOPICS IN APPLIED MICROBIOLOGY AND MICROBIAL BIOTECHNOLOGY
Proceedings of the II International Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld2007)
University of Seville, Spain, 28 November – 1 December 2007

edited by **Antonio Mendez-Vilas** (Formatex Research Center, Spain)

Table of Contents (265k)
Introduction (193k)
Chapter 1: Anti-oxidative stress enzymes in *Pleurotus ostreatus* (498k)

This book contains a compilation of papers presented at the II International Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld2007) held in Seville, Spain on 28 November – 1 December 2007, where over 550 researchers from about 60 countries attended and presented their cutting-edge research. The main goals of this book are to: (1) identify new approaches and research opportunities in applied microbiology, presenting works that link microbiology with research areas usually related to other scientific and engineering disciplines; and (2) communicate current research priorities and progress in the field. The contents of this book mirror this focus.

Microbiologists interested in environmental, industrial and applied microbiology and, in general, scientists whose research fields are related to applied microbiology can find an overview of the current state of the art in the topic. In addition to the more general topic, some chapters are devoted to specific branches of microbiology research, such as bioremediation; biosurfactants; microbial factories; biotechnologically relevant enzymes and proteins; microbial physiology, metabolism and gene expression; and future bioindustries.

Contents:

- Agriculture, Soil, Forest Microbiology
- Analytical and Imaging Techniques. Microscopy
- Environmental, Marine, Aquatic Microbiology. Geomicrobiology
- Food Microbiology
- Industrial Microbiology. Future Bioindustries
- Medical Microbiology. Pharmaceutical Microbiology
- Methods — Quantitative Models and Bioinformatics in Microbiology
- Microbial Physiology, Metabolism and Gene Expression
- Microbiology Education
- Bioremediation
- Biosurfactants: Purification, Mass Production, Applications
- Biotechnologically Relevant Enzymes and Proteins
- Microfactories — Microbial Production of Chemicals and Pharmaceuticals

Readership: Microbiologists; biotech researchers; researchers in cell/molecular biology, biophysics, physiology, genetics, pharmacology, biochemistry and agriculture.



788pp Pub. date: Jan 2009

ISBN: 978-981-283-754-7
981-283-754-X US\$191 / £112

Put in Shopping Cart

Checkout

Yeast stress enzymes – application of microbiology and bioinformatics for initiate high school students in environmental studies

I. Alves-Pereira ^{1,2} and R. Ferreira ^{*,1,2}

¹ Departamento de Química, Universidade de Évora, Apartado 94, 7002-554 Évora, Portugal

² Instituto de Ciências Agrárias Mediterrânicas (ICAM), Apartado 94, 7002-554 Évora, Portugal

The aim of this work was to prepare a summer course for high school students of Portugal which illustrate the importance of microbiology and bioinformatics applications in environmental studies, emphasizing that molecular mechanisms of response, repair and adaptation, endows the cell with essential plasticity to adjust to environmental events, by a process termed stress response. Five high school students with ages ranging from 15 to 17 years old are executes in our laboratory very simple experiments observing that vanadium presence in culture medium, switch on a yeast stress response. This course covers the genomic and functional characterization of CAT T from yeast by bioinformatics search, experimental detection and its response to the vanadium presence in culture medium. The obtained results, namely CAT T detection, its positive response to vanadium and structural and metabolic characterization of gene *CTT 1* products reveal to the students the importance of yeast enzymatic detection as environmental response markers.

Keywords vanadium stress; catalase;, *Saccharomyces cerevisiae*

* Corresponding author: e-mail: raf@uevora.pt, Phone: +351 266745300