

## Accepted Manuscript

Title: An industrially applied biocatalyst: 2-deoxy-D-ribose-5-phosphate aldolase

Authors: Hui Fei, Cheng-cai Zheng, Xin-ye Liu, Qian Li

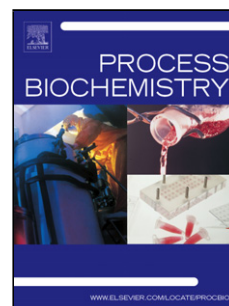
PII: S1359-5113(17)30547-0  
DOI: <http://dx.doi.org/doi:10.1016/j.procbio.2017.08.001>  
Reference: PRBI 11122

To appear in: *Process Biochemistry*

Received date: 1-4-2017  
Revised date: 24-7-2017  
Accepted date: 1-8-2017

Please cite this article as: Fei Hui, Zheng Cheng-cai, Liu Xin-ye, Li Qian. An industrially applied biocatalyst: 2-deoxy-D-ribose-5-phosphate aldolase. *Process Biochemistry* <http://dx.doi.org/10.1016/j.procbio.2017.08.001>

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.



# An industrially applied biocatalyst: 2-deoxy-D-ribose-5-phosphate aldolase

Hui Fei\*, Cheng-cai Zheng, Xin-ye Liu, Qian Li

College of Life Sciences, Zhejiang Sci-Tech University, 310018, Hangzhou, China

Corresponding author email: feihui@zju.edu.cn

## Highlights:

- 2-deoxy-D-ribose-5-phosphate aldolase(DERA) belongs to the family of lyases, and can form C-C bonds to generate multiple chiral centers, which provides an interesting route for the production of key chiral compounds. However, several problems such as low activity and poor stability (poor tolerance to high concentration of aldehyde) limit the practical application of DERA for large-scale production, Many approaches have been introduced to address these issues. Specifically, in the last decade, many new DERAs have been cloned from various extreme microorganisms, with high catalytic activity or excellent aldehyde tolerance. In addition, based on analysis of the catalytic mechanism of DERA, rational design engineering and computational design have been used to reconstruct enzymes to alter the stability and catalytic activity of DERA.

Download English Version:

<https://daneshyari.com/en/article/6495667>

Download Persian Version:

<https://daneshyari.com/article/6495667>

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