

Accepted Manuscript

Title: Enantioselective hydrolysis of ibuprofen ethyl ester by a thermophilic immobilized lipase, ELT, from *Rhodothermus marinus*

Authors: Mina Memarpour-Yazdi, Hamid Reza Karbalaee-Heidari, Mohammad Mahdi Doroodmand



PII: S1369-703X(17)30331-5
DOI: <https://doi.org/10.1016/j.bej.2017.11.016>
Reference: BEJ 6829

To appear in: *Biochemical Engineering Journal*

Received date: 27-8-2017
Revised date: 6-11-2017
Accepted date: 23-11-2017

Please cite this article as: Mina Memarpour-Yazdi, Hamid Reza Karbalaee-Heidari, Mohammad Mahdi Doroodmand, Enantioselective hydrolysis of ibuprofen ethyl ester by a thermophilic immobilized lipase, ELT, from *Rhodothermus marinus*, *Biochemical Engineering Journal* <https://doi.org/10.1016/j.bej.2017.11.016>

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.

Enantioselective hydrolysis of ibuprofen ethyl ester by a thermophilic immobilized lipase, ELT, from *Rhodothermus marinus*

Mina Memarpoor-Yazdi^a, Hamid Reza Karbalaeei-Heidari ^{a*}, Mohammad Mahdi Doroodmand^b

^a Molecular Biotechnology Laboratory, Department of Biology, Faculty of Science, Shiraz University, Shiraz 71454, Iran.

^b Department of Chemistry, College of Science, Shiraz University, Shiraz 71345, Iran.

*Corresponding author: Molecular Biotechnology Lab Department of Biology, Faculty of Sciences, Shiraz University, P.O. Box: 71467-13565, Shiraz 71454, Iran. Fax: +98 71 32280926.

E-mail addresses: karbalaeei@shirazu.ac.ir, karbalaeei76@gmail.com (H.R. Karbalaeei-Heidari).

Highlights

- A novel enantioselective lipase from *Rhodothermus marinus* has been cloned and overexpressed.
- The purified lipase (ELT) was immobilized on chitosan-MMPs and SiO₂ nanoparticles.
- The ELT-SiO₂ showed remarkable kinetic parameters.
- Immobilized enzymes were used as biocatalyst to obtain *S*-enantiopure of ibuprofen.
- Enantioselective ratio and conversion percent of the immobilized ELT were 3.0 and 43%.

Download English Version:

<https://daneshyari.com/en/article/6482294>

Download Persian Version:

<https://daneshyari.com/article/6482294>

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