

Accepted Manuscript

Title: Biomimetic strategies to design metallic proteins for detoxification of hazardous heavy metal

Authors: Asuma Janeena J., Ilamaran M., George A., George S.A., Sriram Raghavan S., Surya Lakshmi P., Aarthi M., Kamini N.R., Gunasekaran K., Ayyadurai N.



PII: S0304-3894(18)30497-7
DOI: <https://doi.org/10.1016/j.jhazmat.2018.06.057>
Reference: HAZMAT 19494

To appear in: *Journal of Hazardous Materials*

Received date: 17-1-2018
Revised date: 24-6-2018
Accepted date: 25-6-2018

Please cite this article as: J. AJ, M. I, A. G, S.A. G, S. SR, P. SL, M. A, N.R. K, K. G, N. A, Biomimetic strategies to design metallic proteins for detoxification of hazardous heavy metal, *Journal of Hazardous Materials* (2018), <https://doi.org/10.1016/j.jhazmat.2018.06.057>

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.

Biomimetic strategies to design metallic proteins for detoxification of hazardous heavy metal

Asuma Janeena J^{a,d}, Ilamaran M^a, George A^a, George S A^a, Sriram Raghavan S^b, Surya Lakshmi P^a, Aarthy M^c, Kamini N R^a and Gunasekaran K^b, Ayyadurai N^{a*},

^aDepartment of Biochemistry and Biotechnology, Council of Scientific and Industrial Research (CSIR) – Central Leather Research Institute (CLRI), Chennai, India.

^bDepartment of Crystallography and Biophysics, Madras University, Chennai, India.

^cCSIR-National Environmental Engineering Research Institute (NEERI), Chennai Zonal Laboratory, Chennai, India.

^dAcademy of Scientific and Innovative Research, Ghaziabad, Uttar Pradesh, India.

*Corresponding author, Ayyadurai N, Phone: 044-24437136, Email: ayyadurai@clri.res.in.

Highlights

- Synthesis of copper binding proteins for treatment of copper containing wastewater.
- Various congener metal binding proteins were designed and screened for copper adsorption.
- Highest copper adsorption capacity was exhibited by ompC- Dopa.
- We designed a recombinant magnetotactic bacterium for copper adsorption.
- Eco-friendly method for copper detoxification from waste water.

Download English Version:

<https://daneshyari.com/en/article/6967945>

Download Persian Version:

<https://daneshyari.com/article/6967945>

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