

Accepted Manuscript

Title: Recent advances in the mechanism of detoxification of genotoxic and cytotoxic Cr VI by microbes

Authors: Parvaze Ahmad Wani, Javid Ahmad Wani, Shazia Wahid



PII: S2213-3437(18)30288-4
DOI: <https://doi.org/10.1016/j.jece.2018.05.042>
Reference: JECE 2407

To appear in:

Received date: 15-3-2018
Revised date: 20-5-2018
Accepted date: 24-5-2018

Please cite this article as: Parvaze Ahmad Wani, Javid Ahmad Wani, Shazia Wahid, Recent advances in the mechanism of detoxification of genotoxic and cytotoxic Cr VI by microbes, Journal of Environmental Chemical Engineering <https://doi.org/10.1016/j.jece.2018.05.042>

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.

Recent advances in the mechanism of detoxification of genotoxic and cytotoxic Cr (VI) by microbes

^aParvaze Ahmad Wani, ^bJavid Ahmad Wani, and ^cShazia Wahid

^aDepartment of Biological Sciences, College of Natural and Applied Sciences
Crescent University, Abeokuta, Ogun State, Nigeria

^bGovt. Dental College, Srinagar, Kashmir, India

^cSeth Vishambhar Nath College of Pharmacy, Lucknow, UP, india

Correspondance To: Parvaze Ahmad Wani
Email: wani1889@rediffmail.com

Abstract

Chromium has different oxidation states which ranges between -2 to +6. Among all these oxidation states, Cr (VI) and Cr (III) are stable but vary in biological, geochemical and toxicological properties. Cr (VI) is more toxic than Cr (III), causes allergies, irritation and respiratory disorders. When Cr (VI) is taken up by the cell, its interaction with DNA-protein complex results in the formation of DNA-DNA cross links, and thus ultimately may cause mutagenic and carcinogenic effects. Chromium results in the formation of ROS, its interaction with DNA-protein complex and cellular components causes DNA alterations and arrests their physiological functions of the cell. ROS also may causes lipid peroxidation, DNA and protein damage and cause cancer in the cells. Chromium (VI) result in oxidative stress, genotoxicity,

Download English Version:

<https://daneshyari.com/en/article/6663800>

Download Persian Version:

<https://daneshyari.com/article/6663800>

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