Karbala International Journal of Modern Science

Volume 8 | Issue 3 Article 13

GREEN APPROACH FOR IRON OXIDE NANOPARTICLES SYNTHESIS: APPLICATION IN ANTIMICROBIAL AND ANTICANCER- AN UPDATED REVIEW

Norul Aini Zakariya
Faculty of Pharmacy and Health Sciences, Universiti Kuala Lumpur-Royal College of Medicine Perak

Wan Hafizah W. Jusof
Faculty of Pharmacy and Health Sciences, Universiti Kuala Lumpur-Royal College of Medicine Perak

Shahnaz Majeed
Faculty of Pharmacy and Health Sciences, Universiti Kuala Lumpur-Royal College of Medicine Perak, shahnaz@unikl.edu.my

GREEN APPROACH FOR IRON OXIDE NANOPARTICLES SYNTHESIS: APPLICATION IN ANTIMICROBIAL AND ANTICANCER- AN UPDATED REVIEW

Abstract

Cancer and microbial infections create numerous challenges nowadays. Chemotherapy agents cause severe side effects, while microbial infections, especially multidrug-resistant bacterial strains hard to treat with available antibiotics. Therefore, this review provides an overview of the green synthesis of Iron oxide nanoparticles (IONPs) with their physicochemical properties and mechanism of action . The IONPs causes cytotoxicity and antimicrobial activity by causing oxidative distress through the production of Reactive Oxygen Species (ROS). The IONPs as an anticancer and antimicrobial agent may help to overcome the limitation of conventional treatments but needs toxicity evaluation before usage in clinical applications.

Keywords

Iron oxide nanoparticles; Biological synthesis; Anticancer activity; Antimicrobial activity

This review article is available in Karbala International Journal of Modern Science: https://kijoms.uokerbala.edu.iq/home/vol8/iss3/13