

### Metal Nanoparticles Formation with Biomaterials

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Biological means for synthesizing metal nanoparticles have attracted significant attention due to its safe and green properties, in contrast to toxic chemical protocols. The reaction can occur under mild conditions, and the biologically synthesized nanoparticles do not contain harmful materials to the human body. In this study, various microbial and plant biomaterials have been screened. According to the type of biomaterials, the size and shape of the nanoparticles were different. In addition, with the help of halide ions, productivity and characteristics of nanoparticles could be controlled. To identify the biochemicals responsible for nanoparticle formation, the extracts of biomaterials were fractionated using solvents having different polarities. It was found that the reduction activity was closely related with antioxidant activity of the fractionated fraction, indicating that antioxidant may play a crucial role in biological formation of nanoparticles.