

Different Methods for Detection Silver Nanoparticles Produced by *Proteus mirabilis* Bacteria

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Abstract : In this study, eighty mid-stream urine samples were collected from patients suffering from catheter associated urinary tract Infections (CAUTI) who visit urological consultant clinic of Hillah Teaching Hospital in Hillah, Babylon province- Iraq during a period from August 2014 and January 2015. All urine samples were subjected for standard bacteriological procedures to diagnostic bacteria. The results show that 30/80 (37.5%) give positive culture for *Proteus mirabilis*.

Detection the ability of this bacteria to the reduction of Ag⁺ to elemental silver nanoparticles Ag⁰ was characterized by X-ray diffraction (XRD), UV-Vis spectrum, Fourier Transform Infrared Spectroscopy and Scanning Electron Microscopy (SEM). The molecular detection by using PCR primer, the primer pairs used in this study first time using Work bench-primer3 software.

Keywords : AgNPs, XRD, SEM, FTIR, *Proteus mirabilis*.

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