

عنوان مقاله:

Determining the antibacterial effect of ZnO nanoparticle against the pathogenic bacterium, Shigella dysenteriae (type 1)

محل انتشار:

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خلاصه مقاله:

The nanomaterials have important application in different field of science such as biology and pharmacology, which draws the attention of biologists towards this field of study more than before. As the worldwide mortality rate is high due to the pathogens and especially because of the bacteria associated dysenteriae and the antibacterial effect of metal nanoparticles is well known from centuries- these materials can be used to annihilate Shigella dysenteriae. Here, we study the antibacterial characteristics of metal nanoparticle; ZnO against Shigella dysenteriae (type 1). Firstly, solid state pyrolytic reaction process has been used to synthesize ZnO nanoparticles. The characteristics were investigated by XRD, SEM and UV-Visible spectrometer. The optical density (OD) of S.dysenteriae was observed in the presence of 0.5% ZnO. This study showed that the presence concentration of nanoparticle was insufficient to the demonstrated antibacterial activity. But a considerable decrease in the bacterial number was observed in the presence of 0.5% and 1% ZnO nanoparticles. A 1.7 times decrease in the OD of S.dysenteriae was recorded of control group (p

کلمات کلیدی:

Nanoparticle, Bactericidal, Shigella dysenteries, ZnO

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