

عنوان مقاله:

Synthesis and evaluation of bactericidal properties of Ag₂O nanoparticles against Aeromonashydrophila

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 Aeromonas and the antibacterial effect of metal nanoparticles is well known for centuries, these materials can be used to annihilate Aeromonashydrophila. In this study, silver oxide nanoparticles were synthesized by sol-gel procedure and antibacterial activity of silver oxide nanoparticles as a function of particle concentration against gram-negative bacterium Aeromonashydrophila ATCC ۷۹۶۶T was carried out in liquid as well as solid growth media. Synthesized Ag₂O nanoparticles (NPs) were characterized by X-ray diffraction (XRD), scanning electron micrograph (SEM) and transmission electron microscopy (TEM). The average size of the Ag₂O NPs determined through transmission electron microscopy (TEM) ۱۵ nm. The bactericidal effect of silver oxide nanoparticles was compared based on the diameter of inhibition zone in well diffusion tests in nutrient culture media. Minimum bactericidal concentration (MBC) of nanoparticles dispersed in peptone water, liquid cultures in ۲۲-۲۵ °C for ۲۴ h were determined

کلمات کلیدی:

Ag₂O nanoparticle, Aeromonashydrophila, Synthesis, Bactericidal effects, Pathogens

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