

## عنوان مقاله:

Zinc oxide nanoparticle reduced biofilm formation and antigen ۴۳ expressions in uropathogenic Escherichia coli

## محل انتشار:

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## خلاصه مقاله:

Objective(s): This study aimed to investigate the effect of zinc oxide nanoparticles (ZnO-np) on biofilm formation and expression of the flu gene in uropathogenic Escherichia coli (UPEC) strains. Materials and Methods: Minimum inhibitory concentration (MIC) of ZnO-np was determined by agar dilution method. The effect of MIC and sub-MIC concentrations of ZnO-np on biofilm formation were determined by microtiter plate assay. The expression level of the flu gene was assessed by Real-Time PCR assay. Results: MIC and sub-MIC ZnO-np concentrations reduced biofilm formation by ۵۰% and ۳۳.۴%, respectively. Sub-MIC ZnO-np concentration significantly reduced the flu gene expression in the UPEC isolates ( $P < ۰.۰۰۰۱$ ). Conclusion: The sub-MIC concentration of ZnO-np reduces biofilm formation and flu gene expression in UPEC isolates. It is suggested to use nanoparticles for coating medical devices .to prevent bacterial colonization

## کلمات کلیدی:

Biofilm, Urinary tract infection, Uropathogenic Escherichia coli, Zinc oxide nanoparticle

## لینک ثابت مقاله در پایگاه سیویلیکا:

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