

# **Investigation of the Frequency of tibA virulence gene and its Relation with biofilm formation ability in clinical isolates of E. coli causing urinary tract infection**

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**Introduction:** Escherichia coli species are responsible for many gastrointestinal diseases and indicate their seriousness. A major step in the pathogenicity of these strains is to identify and connect to the host cells. TibA is a potent bacterial adjuvant that is present in a number of Enterotoxigenic E. coli species and can severely bind bacteria to various human cells. In addition, the invasion of such cells is caused. This connection is an automated system by attaching to a series of cell membrane transfusion proteins. **Methods:** In this descriptive study, 45 suspicious clinical cases were isolated. Then they were identified by the morphological and biochemical experiments of E. coli isolates. Antimicrobial resistance and antibiotic susceptibility of isolates were evaluated by antibiogram tests for different antibiotics. Then, using specific primers, the tibA encoding gene in resistant and non-resistant strains and also the ability to produce biofilms were investigated. **Results:** In this study, 45 isolates of E. coli identified. The results showed that the highest isolates resistance was attributed to tetracycline (60%) and chloramphenicol (30%). Of the 45 isolates, 24 isolates (53.33%) had tibA gene and 21 isolates lacked the gene. **Conclusion:** The findings of this study indicate that the resistance of E. coli isolates to antibiotics and the ability to produce biofilm and binding in patients with UTI is still common. Considering the results of the study on the presence of tib A gene and biofilm formation, it can be concluded that in the majority of isolates with medium to strong binding potentials, there was a tib A gene, and this is due to the link between the presence of the gene tib A and the power of biofilm formation.

**Keywords :** Urinary tract infection, E. coli, Biofilm, Microbial resistance, PCR

