

## Distribution of Toxic Shock Syndrome Toxin-1 Gene in *Staphylococcus aureus* Isolated from Clinical Specimens

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**Background & Objectives:** Some of *Staphylococcus aureus* produced difference type of extracellular toxins exotoxins. For example TSST-1 is caused acute disease from skin infections and multiorgan system failure by fever, hypotension or shock, skin rash, desquamation of both hands and feet skin. TSST-1 is a member of a large family of toxins known as pyrogenic toxin superantigens (PTSAs). Production of TSST-1 can be determined using in disease diagnostic by PCR. In this research we are detecting TSST-1 in *Staphylococcus aureus* strains isolated from clinical specimens of Baqiyatallah Medical University. The principal aim of this study is evaluation abundance TSST-1 genes in strains of *S. aureus* at hospital different wards.

**Methods:** 200 strains of *S. aureus* isolated from clinical samples were subjected to PCR. *S. aureus* strains were maintained on tryptic soy agar plates then according to the methods of genomic DNA Extraction kit (bioneer Co. Korea). DNA was extracted. We designed TSST-1 primers and evaluated by blast software.

**Results:** After detection of *tst* gene by PCR methods, the products were analyzed on agrose gel electrophoresis. According to spss software and statistics table, TSST-1 producing strains high have relatively prevalent in hospital different wards.

**Conclusion:** The findings demonstrated that TSST-1 producing strains have over distributed in between all groups studied. It's seems the probably presence of TSST-1 genes have significant relative with clinical samples. Detection TSST-1 would have important uses in including further: research on their molecular mechanisms and true nature of the superantigenic properties.

**Keywords:** TSST-1; Distribution; PCR