



University of Zabol
Graduate School
Faculty of Veterinary
Department of Food hygiene

The Thesis Submitted for the Degree of M. Sc
(In the field of Veterinary)

Title:

**Molecular analysis of enterotoxin genes *seA*, *seB*, *seC*, *seE*, *tsst-1*, *pvl*
staphylococcus aureus isolated from the nose of sheep in Sistan region.**

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Abstract

Staphylococcus aureus is an opportunistic pathogen that can be found in the nasal mucosa, respiratory tract and skin of humans and animals. This bacterium has pathogenic factors, the most important of which are enterotoxins (SEs), *tsst-1* and *pvl*, which act as superantigens (SAGs). and are considered important factors in the pathogenesis of this bacterium. The main purpose of this research is to investigate enterotoxin genes *seA*, *seB*, *seC*, *seE*, *tsst-1*, *pvl* in *Staphylococcus aureus* bacteria, because this bacterium causes mild skin diseases and life-threatening diseases such as pneumonia, endocarditis, meningitis., toxic shock causes septicemia. In this study, only to prevent and treat faster ways of this bacteria, its enterotoxin genes. DNA of 100 *Staphylococcus aureus* isolates obtained from the nose of sheep in Sistan region after extraction was analyzed using multiplex PCR method. The results showed that the frequency of *tsst* gene (37 percent), the frequency of *sec* gene (23 percent), the frequency of *seb* gene (20 percent), the frequency of *sea* gene (2 percent), and the frequency of *see* and *pvl* genes were zero percent .

Keywords: enterotoxin, *staphylococcus aureus*, sistan.