



University of zabol

Department of Nutrion and animal breeding
The Thesis Submitted for the Degree of M. Sc
(In the field of Veterinary)

Title:

**presence of qacE gene in Pseudomonas aeruginosa
isolates collected from teaching Hospitals in zabol**

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Abstract

Pseudomonas aeruginosa bacteria is one of the common pathogenic bacteria and the cause of various infections in human and animal bodies. This bacterium is a very important pathogen because it often attacks hospitalized patients and causes 40 to 60% of deaths. *Pseudomonas aeruginosa*, like some Gram-negative bacteria, has the *qacE* gene. The *qacE* gene is the determinant of resistance to quaternary ammonium compounds. An increase in the emergence of resistance in *Pseudomonas aeruginosa* strains, especially tetravalent ammonium compounds, has been reported all over the world, and in this context, the presence of the *qacE* gene in *Pseudomonas aeruginosa* has been confirmed. Therefore, the aim of this research was to investigate the presence of the *qacE* gene in *Pseudomonas aeruginosa* in the environment of Zabul Hospital in order to pave the way for the use of appropriate health devices in this regard. For this purpose, in this study, the DNA of 66 isolates of *Pseudomonas aeruginosa* isolated from Zabul Teaching Hospital was examined for the presence of the *qacE* gene after extraction using the PCR method. In this study, 3.03% of isolates contained *qacE* gene.

Keywords: *qacE* gene, *Pseudomonas aeruginosa*, hospital