

## عنوان مقاله:

Evaluation of the immune responses following co-administration of PilQ and type b-Flagellin from *Pseudomonas aeruginosa* in the burn mouse model

## محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

**Introduction and Objectives:** Considering the increased antibiotic resistance of *Pseudomonas aeruginosa*, the evaluation of immune response against the antigens of this bacterium seems necessary. In this study, the protective efficacy and immunological properties of *P. aeruginosa* recombinant PilQ (r-PilQ) and type b-flagellin (FLB) proteins was evaluated in the burn mouse model of infection. **Materials and Methods;** The inbred BALB/c mice were immunized with r-PilQ and FLB antigens. To investigate the type of induced immune response, sera were analyzed by ELISA for total IgG, IgG1, and IgG2a isotypes. After the final immunization, the IL-4, IFN- $\gamma$ , and IL-17 cytokines level were examined in the spleen of non-challenged mice. Fifty days after lethal challenge, the survival rate and bacterial burden in the skin and other internal organs of experimental mice were assessed. **Results:** The in vivo administration of r-PilQ, FLB and combined antigen resulted in a significant increase in the survival of mice (66%, 75%, and 83%, respectively) infected by the PAO1 strain of *P. aeruginosa* in the burn model of infection. Immunization of mice with r-PilQ and FLB mixture induced high titers of IL-4 and IL-17 cytokines compared to control groups ( $P < 0.05$ ). The high titer of antisera raised against combined antigen was able to inhibit the systemic spread of the PAO1 strain from the site of infection to the internal organs. **Conclusion:** We concluded that the parallel role of IL-4 and IL-17 is necessary for elimination of the bacteria and promotion of survival in the immunized burn mice.

## کلمات کلیدی:

*Pseudomonas aeruginosa*; PilQ; Flagellin; burn; immunization; cytokine

## لینک ثابت مقاله در پایگاه سیویلیکا:

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