

## عنوان مقاله:

Assessment of Urtica dioica extracts on mex A Gene in Pseudomonas Aeruginosa by Real-Time PCR in order to replace healthy preservatives to control food contamination

## محل انتشار:

دومین کنگره بین المللی و بیست و پنجمین کنگره ملی علوم و صنایع غذایی ایران (سال: 1397)

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## خلاصه مقاله:

*Pseudomonas aeruginosa* is a gram-negative opportunistic human, animals and plants pathogen associated with nosocomial infections and is a common human and fish bacterial species that causes bacteremia with bleeding in fish. It is also one of the most important pathogenic factors in chicken and poultry. So antimicrobial resistance among clinical strains of *Pseudomonas aeruginosa* is a major challenge with respect to treatment especially among patients suffering from nosocomial infection. On the other hand, discovering new antibacterial agents is difficult and costly. For this reason, native materials such as herbal extracts are publicized in recent years. We aimed to assess the anti-efflux properties of *Urtica dioica* extract, on multidrug resistant *P. aeruginosa*. The extract was prepared using the maceration method. All clinical isolates were identified via biochemical and molecular tests and Minimum Inhibitory Concentration (MIC) of the antibiotics was performed for all of them. Then, the presence of *mexA* gene was evaluated by PCR. Real-time PCR was run for measuring *mexA* gene expression in *Urtica dioica* extract treated and un-treated MDR strains. The *rpsL* gene was used for each reaction as the house keeping control gene. The results showed that the expression of *MexA* gene was down regulated under treatment with *Urtica dioica* extract compared with the reference *rpsL* gene (0.3 fold for *MexA* and 1 fold for *rpsL*). Inhibition of efflux pump activity may be a strategic procedure for overcoming multidrug resistance in bacteria and using native compounds could be considered as preservative in food industry in the future.

## کلمات کلیدی:

*Pseudomonas aeruginosa*; Efflux pump; Nettle; preservative

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/873408>



