

## عنوان مقاله:

In Vitro Antimicrobial Activity of Dermcidin-1L against Extensively-Drug-Resistant and Pan drug-Resistant  
*Acinetobacter baumannii*

## محل انتشار:

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

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## خلاصه مقاله:

**Introduction and Objectives:** *Acinetobacter baumannii* are currently considered one of the greatest causes of nosocomial infection. The rapid emergence and spread of resistance to most conventional antibiotics highlight the need to identify novel antimicrobial agents. Antimicrobial peptides (AMPs) are introduced as potential therapeutic alternatives. Human anionic antimicrobial peptide, dermcidin-1L (DCD-1L), has shown antimicrobial activity against a wide range of nosocomial pathogens; however, it is still unknown whether it exhibits such properties against *A. baumannii*. For the first time, the present study was conducted to examine the antimicrobial activity of DCD-1L against biofilm forming extensively-drug-resistant (XDR) and pan drug-resistant (PDR) isolates of *A. baumannii*, belonging to different clonal lineages. **Materials and Methods:** Dermcidin-1L was examined in terms of antimicrobial properties against 1 biofilm-forming representative XDR isolate from each clonal lineage and 1 PDR isolate via minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) analyses and time-kill assay. Dermcidin-1L resistance mutation frequency in *A. baumannii* was also determined. **Results:** Minimum inhibitory concentration and MBC of DCD-1L against all 8 representative XDR and standard (ATCC 19606) isolates were 16 and 32  $\mu\text{g/mL}$ , respectively, while the corresponding value for 1 PDR isolate was 8  $\mu\text{g/mL}$ . The time-kill assay results revealed that the bactericidal effects were more rapid against PDR than XDR strains. In addition, the tested AMPs showed a low tendency to develop resistance. **Conclusions:** The present results showed that DCD-1L exhibits interesting antibacterial properties against PDR *A. baumannii* strains, making it a promising candidate for the development of new anti-infective therapies.

## کلمات کلیدی:

Antimicrobial Peptide DCD-1L, Drug Resistant, *Acinetobacter baumannii*

## لینک ثابت مقاله در پایگاه سیویلیکا:

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