## عنوان مقاله:

Antimicrobial activity of an antimicrobial peptide against amastigote forms of Leishmania major


## محل انتشار:

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## خلاصه مقاله:

Zoonotic cutaneous leishmaniasis caused by Leishmania major is a most common type of vector-borne disease in Iran. The pentavalent antimonial drugs have been used in the treatment of cutaneous leishmaniasis for a long time, but drug resistance and some of serious side effects have been reported. Thus, discovery and development of new therapeutic candidates are needed. The CM۱۱ peptide is one of these peptides that its anti-bacterial activity has been proven. This peptide is a short cecropin–melittin hybrid peptide obtained through a sequence combination approach. The aim of this study was to evaluate in vitro anti-leishmanial activity of CM۱۱ peptide against amastigote forms of Leishmania major. In this study, amastigote forms of Iranian strain of L. major (MRHO/IR/۷۵/ER) were cultured in the presence of different concentrations of meglumine antimoniate (Glucantime®) to find the most appropriate in vitro concentration of Glucantime® against L. major amastigotes. Then, the anti-leishmanial activities of various concentrations of CM۱۱ peptide (۸, ۱۶, ۳۲ and ۶۴ µM) were evaluated for ۲۴, ۴۸ and ۷۲ hr by DAPI staining. In addition,

MTT assay was used to determine the cytotoxic effects of CM۱۱ peptide on murine fibroblast cell line. The results showed that CM۱۱ peptide has antimicrobial activity against Iranian isolate of L. major in the laboratory conditions. It seems that the CM۱۱ peptide has significant potential to be used as a new anti-leishmanial agent.

## کلمات کلیدی:
Amastigote, CM۱۱ Peptide, Leishmania major