

عنوان مقاله:

Anti-cancer effect of a new toxin from *Odontobuthus doriae* scorpion on breast cancer cell line

محل انتشار:

چهارمین کنگره بین المللی و شانزدهمین کنگره ملی ژنتیک (سال: 1399)

تعداد صفحات اصل مقاله: 1

نویسندگان:

Zahra Khademidehkordi - Shahrekord University

Hoda ayat - Shahrekord University

fateme elahian - Shahrekord University of Medical Science

خلاصه مقاله:

Background and Aim: Scorpion venom contains various peptide compounds that have been investigated for treating different disease. Venom toxins with anticancer properties are isolated that targeting ion channels and specific receptors in cancer cells. IOD-Natx is a new alpha toxin isolated from Iranian scorpion *Odontobuthus doriae*. In this study, we investigated the anticancer effect of this toxin on the metastatic grade of human breast cancer MDA-MB-231 cells. Methods: Recombinant IOD-Natx toxin was expressed in *E.coli* and purified by nickel chromatography column. Antiproliferative activity and cytotoxicity of peptide on the MDA-MB-231 cell line human breast cancer were evaluated by MTT assay. Wound healing cell motility assay was performed to investigate cell migration by toxin treatment. Results: IOD-Natx is a toxin with 66 amino acids that based on sequence similarity is an alpha toxin affecting sodium channels. Soluble expression of this toxin was determined by SDS-PAGE analysis and then recombinant peptide was purified. The results of MTT assay showed IOD-Natx toxin was cytotoxic on MDA-MB-231 breast cancer cells dose dependently with an IC_{50} around $15 \mu M$. In addition, scratch test showed recombinant IOD-Natx inhibit migration and growth of cancer cells. Conclusion: This results indicate that this new toxin has anticancer property on metastatic breast cancer cell line and can be a promising candidate for development of new anticancer agents.

کلمات کلیدی:

scorpion venom, breast cancer, alpha toxin, ion channels

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1195535>

