

عنوان مقاله:

Antiproliferative Potential of Bacillus coagulans Supernatant on SKBR3 Breast Cancer Cell Line

محل انتشار:

فصلنامه میکروبیولوژی شناسی پزشکی ایران، دوره 16، شماره 5 (سال: 1401)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Masoumeh Dolati - Department of Biology, Parand Branch, Islamic Azad University, Parand, Iran

Farzaneh Tafvizi - Department of Biology, Parand Branch, Islamic Azad University, Parand, Iran

Masoud Salehipour - Department of Biology, Parand Branch, Islamic Azad University, Parand, Iran

Tahereh Komeili Movahed - Cellular and Molecular Research Center, Qom University of Medical Sciences, Qom, Iran

Parvaneh Jafari - Microbiology Department, Faculty of Science, Arak Branch, Islamic Azad University, Arak, Iran

خلاصه مقاله:

Background and Aim: Breast cancer is one of the most common types of cancer among Iranian women. To date, the usual cancer treatments have not been entirely effective. Therefore, creating anticancer products is of great importance. The aim of this study was to evaluate the cytotoxic, anticancer, and induction effects of Bacillus coagulans probiotic bacterial supernatant on SKBR3 cells. **Materials and Methods:** The anticancer potential and cytotoxic effect of different concentrations of probiotic bacterial supernatants (1, 2, 3, 4, 5, 6 and 7 mg/mL) were evaluated on SKBR3 cells for 24, 48, and 72 h by MTT technique. QRT-PCR was used to assess the expression of bax, bcl2, casp3, and casp9 genes, and flow cytometry was used to evaluate apoptosis in cancer cells. **Results:** The inhibitory effect of dose- and time-dependent B. coagulans supernatant showed that the supernatant of this probiotic bacterium had a cytotoxic effect on SKBR3 cancer cells. On the other hand, analysis of flow cytometry results and increased expression of bax, casp3, and casp9 pro-apoptotic genes and decreased bcl2 expression in cancer cells showed induction of apoptosis. **Conclusion:** The anticancer and cytotoxic effect of B. coagulans probiotic bacterial supernatant on SKBR3 cancer cells shows that with further research, this probiotic bacterium can be used as a new strategy for the possible treatment of breast cancer.

کلمات کلیدی:

Apoptosis, Bacillus coagulation, Breast cancer, Probiotic, SKBR3 cancer cells, Supernatant, پروبیوتیک، سرطان پستان، سلول SKBR3، سوپرناتانت، باسیلوس کوآگولانس.

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1530974>

