

عنوان مقاله:

Investigation of Sargassum algae extracts and its special effect against breast cancer cell lines

محل انتشار:

چهارمین کنفرانس بین المللی علوم، مهندسی، تکنولوژی و کسب و کارهای فناورانه (سال: 1401)

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خلاصه مقاله:

Breast cancer is a type of cancer that starts in the breast. Cancer begins when cells grow out of control. Breast cancer cells usually form a tumor, which is usually seen on X-rays or felt as a lump. It is very important to understand that most breast lumps are benign and not cancerous or malignant. Breast cancer is a cancer that develops from breast tissue. Signs of breast cancer include lumps in the breast tissue, change in shape, dimpling of the skin, and fluid coming from the nipple or a red scaly patch of skin. People with distant spreads of the disease, there may be bone pain, swollen lymph nodes, shortness of breath, or yellow skin. Seaweed is a marine macro alga comprising many geniuses and species. Sargassum is a marine sulfated polysaccharide, extracted from brown seaweed that has a wide range of bio activities including anticancer properties. Marine organisms generally produce a variety of compounds with pharmacological activities. The aim of this study is to estimate the anticancer activity of Sargassum sp. against breast cancer cell line. The effect of Sargassum Sp. on breast cancer cell viability was measured by MTT assay following the method by Mossman. Briefly, MCF-7 cells were plated in 96 well plates at a concentration of 2×10^4 cells/well with replications. Treatment was conducted for 24 h with different concentrations of Sargassum sp. The IC_{50} was calculated as the concentration of sample needed to reduce 50% of the absorbance in comparison to the DMSO-treated control. Cell morphological changes were observed in phase contrast microscopy. The concentration of Sargassum Sp. extract and the viability of cancer cells. From this, it is seen that with increase in concentration of the extract, the viability of the cell decreases. So, it is clearly understood that this extract possesses significant anticancer activity against the breast cancer cell line. The cell viability was decreased in a time and dose dependent manner. Our study indicates that the brown marine algae Sargassum sp. Collected from Thondi, Coastal areas have promising anticancer activity. In future, this can be developed into a new anticancer drug to be used, which has lesser side effects when compared to the commercially available synthetic drugs

کلمات کلیدی:

Cancer, cytotoxic, Persian Gulf, Sargassum

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