

عنوان مقاله:

Apoptotic effect of an active compound of Quinazoline on breast cancer cell line

محل انتشار:

نهمین کنگره بین المللی سرطان پستان (سال: 1392)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Breast cancer is a dangerous disease that threatens the health of individuals and is the most common malignant tumor in females. A major problem with present cancer chemotherapy is the serious deficiency of active drugs for the curative therapy of tumors. . A successful anticancer drug should kill or incapacitate cancer cells without causing excessive damages to normal cells. This ideal situation is achievable by inducing apoptosis in cancer cells. Quinazoline is a heterocyclic compound made up of two fused six-membered simple aromatic rings, a benzene ring and a pyrimidine ring. Its chemical formula is $C_8H_6N_2$. This study was designed to investigate the effect of one active derivative of Spiro Quinazoline on cell apoptosis and the cell cycle of breast cancer cells in vitro. Materials and Methods breast cancer cells were inoculated in RPMI-1640 culture medium and cells were seeded in 96-well tissue culture plates at 15000 cells/well for 24, 48, 72 h. For the co-treatment, the cells were incubated with different concentrations of this compound. The cell viability was determined by MTT assay as previously described and the morphological changes of cells were observed by fluorescence microscope after acridine orange staining. Flowcytometric analysis of Annexin V-PI staining and Western blot examined protein expression. Results MTT assay indicated that this active derivative treatment decreased the viability of human breast cancer cells and inhibited proliferation and induced apoptosis of breast cancer cells in a dose and time dependent manner. The activity of caspases in breast cancer cells was increased in time dependent manner. Cell cycle distribution determined using flow cytometry of propidium iodide stained nuclei and autophagy was detected by acridine orange staining. Conclusions The results of this investigation clearly indicated that the new compound is capable of inducing apoptosis in breast cancer cells.

کلمات کلیدی:

Quinazoline, Breast cancer, Apoptosis

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