

ABSTRACT

ANTI-CANCER ACTIVITIES OF BRUCEIN-A ENCAPSULATED WITH LIPOSOME AGAINST BREAST-CANCER CELLS (T47D) IN-VITRO

By

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Breast cancer is such a malignant tumor which grows in the breast tissue. The sufferers of this cancer need more special attention because most of them usually resulted in the death. Medical treatment for the patients of breast cancer can be treated by radiation therapy, surgery, and chemotherapy. However, these therapies can damage the healthy cells around the cancer cells, spread to the other location, and mutate the cancer cells so that difficult to destroy.

Brucein-A is a quasinoid compound which has anti-cancer activity. Activity of Brucein-A can be increased by using liposome. Liposome has two-layer membranes of phospholipids which similar with cell membranes. Production of breast cancer medicines using active-material. Brucein-A which encapsulated with liposome to against breast cancer cell is a new method for increasing the stability and activities in killing breast cancer cell. The purpose of this research is find out

the activities of anti-cancer compound brucein-A which encapsulated with liposome to against breast cancer cell (T47D) *in-vitro*.

This research has been done in three repetition by treating the concentration of brucein-A encapsulated with liposome and formed in 10 degrees, i.e. 0,04 ppm, 0,08 ppm, 0,16 ppm, 0,31 ppm, 0,63 ppm, 1,25 ppm, 2,5 ppm, 5 ppm, 10 ppm, and 20 ppm. The data are shown in table and graphic and analyzed linear to find IC_{50} .

The result of the research shows that the brucein-A encapsulated with liposome at the concentration of 0,07 ppm can inhibit 50% proliferation of breast cancer cells (IC₅₀). Percentage IC₅₀ of 0,07 ppm is more active than IC₅₀ from the standard anti-cancer antimycin (1,03 ppm) and cisplatin (0,43 ppm). The activity of anti-cancer brucein-A after encapsulated with liposome has increased 65 times, i.e. from 4,6 ppm become 0,07 ppm.

Keywords : *anti-cancer, brucein-A, liposome, cancer cell T47D.*