**THE EFFECT OF PURPLE NUTSEDGE (Cyperus rotundus L.) EXTRACT FROM THE ECOLOGICAL ZONE IN LAMPUNG PROVINCE TO EXPRESSION OF BAX PROTEIN ON THE HELA CERVICAL**

**CANCER CELL LINE**

**Susianti susianti, Betta Kurniawan, Samsul Bakri, Nurul Utami, Giska Tri Putri**

University of Lampung

Email: susianti.1978@fk.unila.ac.id

Cancer treatment is currently carried out in various ways including operative, radiotherapy, chemotherapy as well as hormone and biological therapy. Several studies have been conducted to explore natural ingredients in order to find new anticancer agents with higher efficacy, less side effects, and more economical because they can be found easily. One of the natural medicinal plants which is potential to be developed as an anticancer is purple nutsedge (*Cyperus rotundus* L.). Purple nutsedge has been shown to have a cytotoxic effect on hela cell apoptosis. But it needs to be proven whether the apoptotic pathway involved is through increased bax protein.

This research is a pure experimental study with a post test model with control group design. The methanol and chloroform extracts of purple nutsedge tubers which had a smaller IC50 in HeLa cells were called active extracts of purple nutsedge tubers. This active extract is used to test the bax protein expression in HeLa cells. Testing with the immunocytochemical method was carried out by culturing cells on 24 wells microplates. Each well was filled with 1x105 cells / well in 500 μl media (FBS 0.5%). Then the media in the microculture was removed by pipette and filled with 500 μl of media (10% FBS) and purple nutsedge tuber extract. Microcultures were incubated again for 24 hours in an incubator. After 24 hours, the coverslip was removed for preparation and observed by microscopic.

From this research, it can be seen that ethanol extract of purple nutsedge tubers has no effect on bax protein expression, while the chloroform extract graphically showed an increase in bax protein expression, but it was not statistically significant.

**Keywords:** *Cyperus rotundus* L., Purple Nutsedge, Cervical Cancer, Bax, immunocytochemistry