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Non-Classical Estrogen Signaling Model of Endometrial Cancer

Each year, over 35,000 women are diagnosed in the United States with endometrial gynecologic cancer. The female reproductive system is a multifaceted and orderly coordination of different tissue types as well as responses to hormones to fulfill its function and maintenance. This system includes two main parts: the uterus and the ovaries. Within the female system, my focus has been about the endometrium and did the signaling inhibitors block Phospho- MAP kinase phosphorylation and activation. This project included using three different cell lines: 1.) Ishikawa ER- 2.) Ishikawa ER-WT6 and 3.) Ishikawa NLS Cells were plated and were pretreated with inhibitors for 30 minutes. 5% of sample buffer BME was used. Cells were harvested in sample (laemmili buffer) and denatured by sonication. PVDF membranes from Bio-Red were used for transfer from gel. The lysates were processed for Western blotting and detection. Secondary antibody was obtained from Santa Cruz Biotechnology (Santa Cruz, CA) and used as a dilution. Subconfluent cultures were maintained in 60 mm tissue culture dishes in full serum media until treatments of serum - free were applied. As the results show when we treat with inhibitors of Akt, we do not see the usual activation of MAP kinase by E2 and G1. But, when we treat with inhibitors of Akt, EGF is still able to activate MAP kinase. This research is inconclusive with research continuing to find treatments to block the cell signaling of the endometrium growth.