

Abstract: Cancer cells take in glucose at many times the rate of normal cells. Overtime, the goals of elimination for these cells has been to inhibit the process by starving the cancer cell and thus preventing the ability to divide and reproduce. This has failed at many attempts due to the P170- glycoprotein disabling chemotherapy from making further progress due to developed resistance by the cancer cell. The goal for this experiment is to use literature from previous experiments to set the foundation for exploring different cancer cell lines which the class of polyketides known as acetogenins may be effective against and open more routes in the exploration of the compound itself. The Paw Paw twigs will be collected from April to May which is the peak season for bioactivity. The plant material will be shredded and dried in an oven at 40°C and ground. The dried plant materials will then be repeatedly extracted with ethanol/methanol. The brine shrimp lethality bioassay (BST) will be performed with aqueous methanol soluble fractions. The BST will be used to assess the cytotoxicity of the extracts. The isolated compound will then enter the testing phase on the cancer cells. Cancer cells will be treated with doses of extract (or pure compound), and cell growth as well as cell death will be monitored at different time points (24,48 & 72 hours). Gene expression of key molecules will be analyzed by real time PCR and Western blot.