**Daily Log**

Week 1

**Day 1:** First, we created our soy and diadzein concentrations. Originally, we tried to dissolve soy and diadzein in PBS to obtain our stock solution. However, the soy and diadzein remained fine particles that floated in the PBS. We decided to use another solute, Dimethyl Sulfoxide (DMSO) instead of PBS. The soy and diadzein dissolved almost immediately into the DMSO. Once stock solutions were established, we created the soy and diadzein treatment concentrations. Then, we treated the cells with 100 µl of the appropriate treatment.

**Day 2 (24 Hours of Growth):** We aspirated one plate of MCF-7 and MDA-MB-231, and added 50 µL of MTS cell proliferation assay into each well. After incubating the plates for four hours, we placed them in the spectrophotometer to measure cell proliferation. Surprisingly, the results indicated that some of the lower concentrations of soy and diadzein had lower rates of proliferation than the higher concentrations. Also, estradiol is not stimulating growth. Perhaps this is by random chance? Hopefully we will be able to see more significant trends better with the data from the next couple of days.

**Day 3 (48 Hours of Growth):** Today, Jennifer applied to MTS assay for us, so we only needed to read the plates. Then, we replenished the cells with the 100 µL of the appropriate treatment. However, we lost two MCF-7 wells in diadzein concentration 0.01 µg/mL because we dispensed bubbles into the wells, which most likely killed or disrupted the cells.

**Day 4 (72 Hours of Growth):** We read plates, and then assessed the results from 48 & 72 hours, noting the same growth curve as 24 hours.

**Day 5 (96 Hours of Growth):** We read plates and set all data on one central graph. We will repeat this experiment for a second trial next week, and hopefully we will encounter less problems as in this trial.

Week 2

**Day 6:** We used the treatments that were created on Day 1 of last week to treat the cells. Something we did differently this time- we aspirated the cells before imposing 100 µL of the appropriate treatment. Last week, neglected to aspirate the cells, and only added 50 µL of the appropriate treatment to the 50µL of growth medium that was already in the wells. This means that our concentrations of soy and diadzein last week were not the target values. Hopefully that will not affect our results.

Also, Mark showed us how to use the mass spectrometer to analyze the soy protein. First, we added 4.2 mg of the soy protein to 2.1 mL of water and 2.1 mL of methanol in a reaction vessel. After dissolving the mixture with a vortex mixer and filtering it in a centrifuge, we placed the reaction vessel into the mass spectrometer, which gave us the results of the analysis half an hour later.

**Day 7 (24 Hours of Growth):** We read the MCF-7 and MDA-MB-231 through the spectrometer for 24-hours of growth. Indeed, the results were much different than those of last weeks. Perhaps we will have to discard the data from last week’s trial and just use the results from this trial.

**Day 8 (48 Hours of Growth):** We aspirated and replenish the cells with the appropriate treatment, and measured cell proliferation for 48 hours of growth. The data we collected also indicates a significant difference compared to the previous trial. We decided to discard the data and use this week’s results. Unfortunately, we will not be able to run another trial, as our lab badges expire at the end of this week.

**Day 9 & 10 (72 & 96 Hours of Growth):** We treated the cells with the assay and then took the day’s readings.