**Bio111 Week 13**

Before you come to lab

1) Prepare your evolution talk. Each group will present their findings while those listening will write down one thing that the group did well and one thing they could improve upon.

2) Think about your final homeostasis experiment. What concentrations of your two experimental compounds will you want to use? Do you want to use only one, or a range of concentrations? What sort of control experiments will you want to design?

3) Answer each of these four questions in two sentences or less.

A) How can you determine a good concentration for your unknown experiments this week? (homeostasis)

B) How could you find out if your compounds have a direct or indirect effect on the cytoplasmic IDH we are using? (homeostasis)

C) The cytoplasmic form of IDH is involved in several different metabolic pathways in different species. Go to [this metabolic map](http://www.genome.jp/kegg-bin/show_pathway?rn00480+R00267) and look for the box with the IDH enzyme number 1.1.1.42) What metabolite does IDH produce in this pathway? (homeostasis)

D) What is glutathione? Find a web resource to figure out what it does for your cells. (homeostasis)

**Week 13 (Mo-vember 17th)**

Evolution Lab

Each group will present their findings. Please bring your PPT presentation on a flash drive so we can load them quickly and start the presentations.

Homeostasis Lab

1) The main goal today is to conduct your final experiment using the two compounds you chose to regulate IDH (1.1.1.42). You will test your compounds on purified bovine IDH and IDH from cauliflower. I will grind up some fresh cauliflower and produce a crude preparation of cytoplasm. Your task is to test your two compounds on both forms of IDH. Think about what concentrations to use (maximum of 3).

2) You will want to perform parallel experiments on both sources of IDH. You can do them consecutively or in parallel. Remember to add the substrate last just before you start the plate reader. I will do a quick run experiment right away so you will know how much cauliflower cytoplasm to use in that half of your research.

You will want to generate a table showing how much you add of each reagent to the appropriate wells. You do NOT need to do the experiment leaving out one reagent at a time. However, you will need to have one well with nothing but cytoplasm so you can determine what is happening normally.

3) Collect all the data today. You can start generating your graphs today if you have time. If not, then you will need to generate your own graph working solo. Each person must write his or her own written lab report and turn in a pledged hard copy at the final lab one week after Thanksgiving.