Microbiology Lab Experiment Changes

Experiment #: 8-3

Title: Bacterial Transformation: the pGLO System

Live Organisms: *E. coli*

Changes:

1. We will follow the procedure in the lab manual. Use vortex mixer to break up clumps when suspending bacteria in transformation buffer. Instead of transfer pipettes we will be using micropipettors.

2. The instructor has one tube of pGLO plasmid. All groups will come to the instructor with their tubes to obtain their plasmid sample. Instructor will add 5µl of plasmid to your +DNA tube.

3. Timing is critical! Strictly follow all stated incubation times.

4. When the transformation is complete, you will spread your sample onto the surface of the LB agar plate using a spreader and alcohol not a loop.

5. Next class, we will analyze the results, answer the questions at the end of the exercise and calculate transformation efficiency.

Take Home Lesson: You should be familiar with the general structure and function of the arabinose operon. In particular you should understand the function of arabinose, the pBAD promoter, and the bla gene as parts of the pGLO plasmid. You also need to know what the GFP gene is, what it codes for, and where it came from.

Explain how we knew that transformation occurred on one or more of our plates.

Explain how this experiment demonstrates a mechanism for gene regulation.