

Bi 1X, Spring 2011

Assignment 4: Molecular Biology

Things to turn in:

- A write-up on what you did in week 3 and 4 (bulk restriction digest, PCR, and gel electrophoresis) in a lab report format. Follow the guidelines under the “Assignment” section in the [Grading Handout](#) on the Bi1x website. These include:
 - Introduction to restriction digest, PCR, and gel electrophoresis
 - Summary that explain the protocols you used
 - Results, your conclusions and discussion, as well as any sources you cited
 - Figures and plots with their own captions such that you could independently understand it without having to refer to the text
 - Remember to use full sentences and walk the reader through each step. Do not write a list. In this case, your lab notebook is a reference for you to look up exactly what you did in the procedure.
- Be sure to include a picture of your gel with labels:
 - What you put in each lane
 - What are the lengths of bands you expect in each lane? (except for ladders)
 - The estimated lengths of bands in each lane (except for ladders), using the known lengths of the ladders. You are responsible for both your and your partner’s PCR results. (Ladder information available from NEB. Ours are the first two, 1kb and 100bp:
http://www.neb.com/nebecomm/tech_reference/markers_ladders/DNA_markers.asp)
- Be sure to discuss the following points in your analysis:
 1. Are any of the bands in your lanes inconsistent with what you put in? What do you think might have happened?
 2. Do you see any bands in your PCR lanes? Did your negative controls work appropriately? If not, explain why that might be.
 3. Do you see the bands you expected in your digests? Did your negative controls work correctly? If not, explain what you think may have happened.