Lab F - Gel Electrophoresis

In this lab, you will use two different types of gels for two different purposes. First, you will be given a protein of known molecular weight (predetermined by gel filtration on the native molecule) but unknown subunit composition. You will load your sample in a polyacrylamide gel and use the SDS-PAGE technique, in conjunction with the results of the gel filtration analysis (provided), to determine the size and number of the individual subunits of this protein.

While your protein gel is running, you will retrieve a portion of your PCR product from the 96-well plate you loaded in the DNA Isolation & Amplification lab. You will determine the quality and quantity of your PCR product using agarose gel electrophoresis and spectrophotometry. This DNA will then be sent out for sequencing.

By the end of the lab, you should understand the differences between the two types of gels and why you might choose one or the other for a particular experiment.

Concepts:

- Understand qualitative and quantitative measures of PCR success
- Understand how to determine protein subunit sizes using SDS-PAGE

Skills:

- Proper use of micropipetters
- Load and run an agarose gel
- Use the spectrophotometer to determine DNA concentration
- Load and run a polyacrylamide gel