

Suggestions on Experimental Design Section of Lab Reports

Here are edited versions of what some students wrote for the Experimental Design section of Lab Report 1:

1. This experiment was designed to teach us how to do a standard curve and to interpret our data for determining the value of unknown concentration of lysozyme in a sample using different kinds of protein assays and a spectrophotometer.
2. This experiment is designed to give the student a better understanding of finding protein concentrations of an unknown through certain assay methods. A spectrophotometer will be used during the experiment.
3. The idea behind the design of the experiment is that the absorbance of a substance (in this case, protein) is proportional to its concentration. So, after determining absorbance of a protein, the concentration of a protein can be found using Beer's law with the protein's unique extinction coefficient, or by preparing a standard curve using a protein solution of known concentration and a protein assay method.
4. This experiment used the Biuret assay to indirectly find the concentration of protein in an Bovine Serum Albumin standard and to plot a linear standard curve. The Folin assay was used to find the standard curve for the lysozyme protein and an unknown was used to find an unknown lysozyme concentration.
5. We performed two different kinds of assays. First we performed a Biuret assay using the protein BSA and then made a standard curve plotting the absorbance against the protein amount. The other assay was the Folin. In this procedure we used known amounts of lysozyme and measured its absorbance at 500 nm to construct a standard curve. The curve was then used to determine the unknown concentration of a protein.

The first three Experimental Design descriptions are more like what needs to be written in this section. That is, this section should be somewhat general while still trying to highlight the key features of the experiment. However, there is no "perfect" answer here and all five descriptions are acceptable. It is helpful to me (perhaps will remind you to write this section in your report), if you begin it with title such as: **Experimental Design**.

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