**Cell Biology Laboratory**

**Project Documentation**

1. Write the first six amino acids of the unnamed protein assigned to you.
2. Write one detail about the protein determined by BLAST
3. Paste a picture of the generated hydropathy plot for the unknown protein here.
4. *Is the unnamed protein an integral membrane protein?* Explain how the generated hydropathy plot supports/contradicts the idea that the unnamed protein is an integral membrane protein.
5. Write the highest scoring predicted NLS amino acid sequence, including type and score. If no result was listed, write ‘none’.
6. *Is the unnamed protein located in the nucleus?* Explain how the NLS mapper results supports/contradicts the idea that the unnamed protein is located in the nucleus.
7. Write the position of the ER export signal. If no result was listed, write ‘none’.
8. *Is the unnamed protein able to be exported from the ER?* Explain how the 3of5 website results supports/contradicts the idea that the unnamed protein is located in the ER or elsewhere in the endomembrane system.
9. Based on the data so far, what unique sequence analysis have you decided to perform? Rationalize your choice, in particular discussing what clues you have gotten from BLAST, hydropathy plot, NLS and ER export analyses.
10. Include your unique sequence analysis protocol here, particularly website used and if applicable, code used.
11. Write/describe the results from your unique sequence analysis.
12. Explain how these results support/contradict that your unnamed protein was housed in a particular location.
13. Based on your sequence analysis, hypothesize where the unnamed protein is located within the cell.