Group E: Weekly Report February 15\textsuperscript{th}-21\textsuperscript{st}

Work Completed

- Expressed and purified Cypet-SUMO1 and Ypet-UBC9 using Protocol 1 which uses the minimum amount of solution and concentration for purification

- Determined the concentrations and the purity of the new batch of culture

- Discussed with a graduate student, Vipul, on how to use the lyophilizer

- Started on lyophilizing testing to determine the stability and usefulness of the lyophilized proteins
  - Lyophilized 1mL of protein to powder in 8 separate tubes for Cypet-SUMO1 and Ypet-UBC9
  - Resuspended the tubes 1 through 4 in 500uL of sterile water, while tubes 5 through 8 remained as powder
    - Tubes 1 and 5 were stored at room temperature
Tubes 2 and 6 were stored at 4˚C
Tubes 3 and 7 were stored at -20˚C
Tubes 4 and 8 were stored at -80˚C

**Future Work**
- Continue with lyophilizing testing and evaluate the results
  - Check the efficiency of the lyophilized proteins
  - Determine if lyophilization affects the protein
  - Analyze the proteins’ stability at various temperatures
- Finish protein purity testing at higher concentrations and analyze the results
- Plans are set to start on protein expression optimization and FRET sensitivity test next week

**Project Review**
We are a little behind in the lyophilization protocol which was supposed to be completed by the end of this week. However, we obtained good results for the Bradford testing, Fluorescence testing, sensitivity of Flexstation II, and protein purity so far. We plan to get back on schedule next week if everything goes smoothly.