

This project's focus is to determine how a specific protein helps control glucagon secretion and responses to hypoglycemia. The answers enhance the understanding of how other cells can adapt to states of over-nutrition and insulin resistance and positively impact T1D management.

I am happy to inform you that this project has been funded and I began working on it recently. In the first stage of this project I will be doing two different experiments. First, I will investigate some important signaling pathways to determine how mTORC1 signaling in pancreatic alpha cells regulates glucagon secretion and mass. Second, I'll be generating two animal models to study this pathway in mice by knocking out important proteins involved in downstream mTORC1 signaling in alpha cells. If we can identify critical components in the mTORC1 pathway, we may be able to improve glucose control and perhaps delay the progression and onset of diabetes.