



Name: Joseph T Blumer

Email: jblumer@wisc.edu

Major Professor: Dawn Belt Davis, MD, PhD

Degree Objective: PhD, Endocrinology and Reproductive Physiology

Background: BS Biology and Spanish, University of Wisconsin-Madison

Current Research Project:

My research focuses on studying the role of transcription factor 19 (Tcf19) in the mouse pancreatic β -cells. Tcf19 was shown in GWAS studies to be a potential causal gene for the association with Type 1 and Type 2 diabetes. Our lab has shown that Tcf19 is necessary for proliferation and survival in the rat β -cell line INS1. I have generated a β -cell specific knockout of Tcf19 in the and have validated that the knockout is specific. I am currently focused on the role Tcf19 plays in the development and maturation of β -cells during development and in the early post-natal rapid β -cell mass expansion. In addition, I will use this mouse model to understand β -cell Tcf19's role in stress conditions.

Funding:

NIH Molecular and Applied Nutrition Training Grant: NIH T32DK007665

Publications:

Linnemann AK, **Blumer J**, Marasco MR, Battiola TJ, Umhoefer HM, Han JY, Lamming DW, Davis DB. "Interleukin 6 protects pancreatic β cells from apoptosis by stimulation of autophagy." *The FASEB Journal*, vol. 31, no. 9, Sept. 2017, pp. 4140-4152., doi:10.1096/fj.201700061rr.

National Presentations:

Poster Presentation: Tcf19 knockout mouse islets have increased stress-related gene expression and reduced proliferative capacity. **Joseph T Blumer**, Jee Young Han, Grace H Yang, Sukanya Lodh, Danielle A Fontaine, Hannah Foster, Dawn B Davis. Midwest Islet Club, May 2019.

Other Presentations:

Poster Presentation: Tcf19 knockout mice have impaired insulin secretion and altered β -cell gene expression. Jee Young Han, **Joseph T Blumer**, Sukanya Lodh, Grace H Yang, Danielle A Fontaine, Dawn B Davis.

Poster Presentation: Diabetes Overview: Pathogenesis and Current Statistics. **Joseph T Blumer**, Lucille Anzia, Bilal Malas, Haley Wienkes, Hung Tae Kim, Dawn B. Davis. UW-Madison Science Expedition, April 2019.



Mentoring:

Anya Beric – Mentored undergraduate research/Biology 152 IP project – September 2019-Present

Keelin Ricciardi – Mentored undergraduate research – January 2020-Present

Professional Memberships:

American Physiological Society – 2019-Present