

BRAELYN BINKOWSKI

✉ braelynblink@gmail.com

☎ (815) 651-1802

📍 Frankfort, IL

🌐 www.linkedin.com/in/braelyn-binkowski

WET LAB SKILLS

Cell Culturing
Flow Cytometry
SeaHorse XF Analysis
Western Blot
Light Microscopy
Fluorescent Microscopy
Multi-round Immunofluorescent Staining
AxioScan

DRY LAB SKILLS

QuPath
Zen
R & RStudio
Excel
Markdown
HTML
CSS
GitHub
Visual Studio Code

INTERPERSONAL SKILLS

High Achiever
Efficient Learner
Self-Disciplined
Natural Leader

LANGUAGES

English
Spanish

REFERENCES

Dr. Brian Haab, Ph.D. | Van Andel Institute
Email: brian.haab@vai.org

Zachary Klamer, MS | Van Andel Institute
Email: zachary.klamer@vai.org

Dr. Alan Strautman, Ph.D. | Miami University
Email: straufam@miamioh.edu

Dr. Rebecca Balish, Ph.D. | Miami University
Email: balishrs@miamioh.edu

PUBLICATIONS

Cancer Cells of the Pancreas Produce Atypical Combinations of Glycans that Enable Distinction of Cancer Subpopulations

IN PROCESS

The foundation of this paper was inspired by my contributions during my 2023 internship at the Van Andel Institute. Following my return to Oxford to complete my degree, dedicated members of the Haab lab continued to exert tremendous efforts toward advancing this project for imminent publication.

PRESENTATIONS

Unraveling Pancreatic Cancer Complexity: Investigating Tumor Heterogeneity through Glycan Biomarkers

AUGUST 2023

Numerous glycans are implicated in pancreatic ductal adenocarcinoma (PDAC), some serving as biomarkers like CA19-9 and sTRA. PDAC patients exhibit varying levels of these biomarkers and other glycans (e.g., Tn antigen, GM2). With this knowledge, I hypothesized a link between glycan expression and tumor subpopulations. Utilizing QuPath for immunofluorescence data analysis, I quantified glycan heterogeneity across entire tumor sections, identifying distinct glycan subpopulations.

The Effect of Glucose and Glutamine Concentration on the Glycosylation of Pancreatic Ductal Adenocarcinoma

AUGUST 2022

This study examined metabolite impact on PDAC glycan signature, focusing on glycolytic and lipogenic subtypes. With this research, there is potential to refine PDAC treatment and outcome predictions.

EXPERIENCE

Van Andel Institute | Grand Rapids, MI | Intern

MAY 2023 - AUGUST 2023

- Analyzed glycan expression in whole tumor sections within the context of pancreatic ductal adenocarcinomas (PDAC).
- Developed and standardized procedures for utilizing advanced dry-lab techniques in aligning and analyzing comprehensive whole-tissue immunofluorescence data

Van Andel Institute | Grand Rapids, MI | Intern

JUNE 2022 - AUGUST 2022

- Mastered a variety of cutting-edge metabolic research techniques

EDUCATION

Miami University | Oxford, OH

AUGUST 2020 - MAY 2024

Bachelor of Arts and Science
Microbiology | Professional Writing

LEADERSHIP & INVOLVEMENT

Miami University Microbiology Club | Vice President

SEPTEMBER 2022 - PRESENT

- Elected Vice President in fall 2022, responsible for member recruitment, event planning, and presentations
- Oversight of the 2023 Ohio ASM Conference as Vice President of the club

Miami University Undergraduate Teaching Assistant

AUGUST 2023 - PRESENT

- Gained hands-on experience in class preparation, planning, and teaching
- Inspired curiosity and engagement among non-major students

Miami University Varsity Swim Team

AUGUST 2020 - NOVEMBER 2021

- Competed for Miami University's Varsity swim team for the 2020 and 2021 seasons
- Retired early due to injury, but maintained strong involvement with the team