Melanie Halim, PhD

STAFF SCIENTIST

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Dr. Melanie Halim assists Choate's life sciences clients by utilizing her background in chemistry and chemical biology to help with the preparation and prosecution of patent applications, as well as freedom-to-operate and patentability analyses.

Prior to joining Choate, Melanie received her PhD in chemistry and chemical biology from the Massachusetts Institute of Technology. Her thesis focused on exploiting lectins (glycan binding proteins) to study and treat diseases. Melanie's research involved investigating the fundamental roles of lectins in innate immune defense as well as pioneering lectin drug conjugates for site specific, conditional delivery of antimicrobial agents. She also worked on a lectin fingerprinting assay for detection of glycosylation changes in viral proteins.

Melanie received her undergraduate degree from the University of Hong Kong in chemistry. She did research in the Yang Lab, where she designed and synthesized organelle specific fluorescent probes of reactive oxygen species and generated a suite of carbapenemase reactive probes for detecting Enterobacteriaceae.

Focus Areas

Intellectual Property

IP Counseling

Publications and Presentations

- "Lectin Fingerprinting Distinguishes Antibody Neutralization in SARS-CoV-2," co-author, *ACS Central Science*, May 2023
- "Lectin-Seq: A method to profile lectin-microbe interactions in native communities," co-author, *Science Advances*, July 2023
- "Glycan analysis probes inspired by human lectins for investigating host-microbe crosstalk,", co-author, bioRXiv, Dec 2024
- "Lectin Drug Conjugates for Selective Pathogen Targeting and Release of Antibiotic," , lead author, Poster presentation, Dec 2024

Education & Credentials

- Massachusetts Institute of Technology, PhD (2024) *Chemistry and Chemical Biology*
- The University of Hong Kong, BS (2019)