



Maria K. McClave, PhD

STAFF SCIENTIST

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Dr. Maria McClave assists Choate's life sciences clients by utilizing her background in molecular biology, cell biology, immunology and microbial pathogenesis to help with the preparation and prosecution of patent applications, as well as freedom-to-operate and patentability analyses.

Maria received her PhD in Molecular Microbiology from Tufts University School of Medicine, where she conducted her research in Dr. Ekaterina Heldwein's laboratory, focusing on antiviral antibody discovery and characterization, mammalian cell assay development, and the evaluation of antibody combinations. During her doctoral studies, Maria received an NIH Ruth L. Kirschstein F31 Individual Predoctoral Fellowship to support this work. Her thesis centered on the isolation and characterization of new anti-HCMV gB antibodies from human donors using a prefusion-stabilized form of gB and included the development of methods to evaluate their activity individually and in combination. She also contributed to the preparation of a patent application arising from her doctoral work. Through her research and professional experience, Maria has obtained expertise in protein engineering technologies, antibody-based therapeutics, and biologics discovery and development.

Prior to pursuing her PhD, Maria worked as a Staff Research Associate in Dr. Tien Peng's laboratory at the University of California, San Francisco, where she studied the role of p16-expressing fibroblasts in lung epithelial regeneration and tissue repair. As an undergraduate, she trained in bacterial genetics in Dr. Daniel Portnoy's laboratory at the University of California, Berkeley, studying host immune responses to *Listeria monocytogenes* infection.

Focus Areas

Intellectual Property
IP Counseling

Publications and Presentations

- "Comparative evaluation of screening approaches for antiviral monoclonal antibody combinations," first author, *Journal of Virology*, 2026
- "Mapping the monoclonal antibody landscape of human cytomegalovirus," first author, *Journal of Virology*, 2026
- "Isolation and characterization of broadly-neutralizing anti-HCMV gB antibodies from human donors using a prefusion-stabilized HCMV gB variant," co-first author, *PLoS Pathogens*, 2026
- "Isolation and characterization of new anti-HCMV antibodies using a prefusion-stabilized HCMV gB", oral presentation, International Herpesvirus Workshop, 2025
- "Sentinel p16INK4a+ cells in the basement membrane form a reparative niche in the lung," second author, *Science*, 2022
- "TLR2 and endosomal TLR-mediated secretion of IL-10 and immune suppression in response to

phagosome-confined *Listeria monocytogenes*," co-author, *PLoS Pathogens*, 2020

Education & Credentials

- Tufts University, Graduate School of Biomedical Sciences, PhD (2026) Molecular Microbiology
- University of California Berkeley, BA (2019) Molecular and Cell Biology, Immunology and Pathogenesis