

## Ellen E. Corcoran, PhD

### Staff Scientist



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#### Practice Areas

Intellectual Property Protection

#### Education

Yale University  
PhD (2023) Molecular Biophysics &  
Biochemistry

Yale University  
Masters (2020) Philosophy

Kenyon College  
BA (2018) Biochemistry, *magna cum laude*

Dr. Ellen Corcoran assists Choate's life sciences clients by utilizing her background in molecular biophysics and biochemistry to help with the preparation and prosecution of patent applications, as well as freedom-to-operate and patentability analyses.

#### Industry Experience

Prior to joining Choate, Dr. Ellen Corcoran attended Yale University, where she received her PhD in Molecular Biophysics and Biochemistry. While pursuing her PhD, Ellen joined the laboratory of Dr. Tony Koleske. Here, her research focused on biochemical mechanisms that are disrupted in neurodevelopmental disorders. Ellen's thesis work focused on elucidating biochemical and cellular functions of TRIO, a gene in which mutations are enriched in individuals with bipolar disorder, schizophrenia, autism, and other neurodevelopmental disorders. Additionally, she was the recipient of a NIH Ruth L. Kirschstein F31 pre-doctoral fellowship. With this fellowship, she aimed to elucidate the functional interaction between TRIO and PDE4A5, and with the long-term goal of determining how this interaction regulates neuronal development. Also from Yale University, Ellen received a Master of Philosophy Degree.

Ellen attended Kenyon College, where she received her Bachelor of Arts in Biochemistry. While attending Kenyon College, she was a student researcher in the lab of Dr. Sheryl Hemkin. Here, she utilized computational methods to investigate the mechanisms responsible for transforming astrocytes that are considered healthy to reactive astrocytes that facilitate neurodegeneration. Also while pursuing her undergraduate degree, she interned at the Ohio State University Comprehensive Cancer Center-James Cancer Hospital & Solove Research Institute. While here, she was a research intern in Dr. Matthew Summers' Lab, where she investigated the role of a deubiquitinase in the regulation of replication and the cell cycle.

#### Publications and Presentations

- "Autoinhibition of the GEF activity of cytoskeletal regulatory protein Trio is disrupted in neurodevelopmental disorder-related genetic variants," co-first author, *Journal of Biological Chemistry*, September 2022
- "Mechanism of Trio GEF1 Regulation by Spectrin Repeats," poster presentation, Cell Symposia: The Biology of Neuropsychiatric Disorders, May 2022
- "In vitro fluorescence assay to measure GDP/GTP exchange of guanine nucleotide exchange factors of Rho family GTPases," co-author, *Biological Methods & Protocols*, December 2021
- "Mechanism of Regulation of TRIO GEF1 activity by Spectrin Repeats," poster presentation, ASCB 2021 Annual Meeting, 2021

- “Calcium(II) oscillations to glucose: An astrocyte relation,” first-author, *Biophysical Chemistry*, September 2019
- “Modeling Perturbations of Baseline Calcium Oscillations and Metabolic Implications in Astrocytes,” presenter, ASBMB 2018 Annual Meeting, April 2018