CHOATE

Kimberly Madhwani, PhD

Staff Scientist

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Practice Areas

Intellectual Property Protection

Education

Brown University
PhD (2024) Neuroscience

California State University, Northridge
BS (2017) Biochemistry

Dr. Kimberly Madhwani assists Choate's life sciences clients by utilizing her background in neuroscience 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, Kimberly received her PhD in neuroscience from Brown University. Her doctoral research focused on the investigation into the neuronal function of the tRNA methyltransferase, ALKBH8, which has been recently linked to intellectual disability in multiple families. She designed and executed molecular biology, behavioral, and computational methodologies to identify potential therapeutic treatments to alleviate neuronal deficits observed in individuals with ALKBH8-associated intellectual disability. Specifically, Kimberly's dissertation work provides mechanistic insight into the neurodevelopmental role of ALKBH8, as a regulator of oxidative stress, synapse development, and memory formation. Kimberly's doctoral research was supported by the NIH/NINDS Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award.

Prior to Brown, Kimberly was an undergraduate researcher at California State University, Northridge, where she received her Bachelor of Science in Biochemistry. She was supported by the NIH Maximizing Access to Research Careers (MARC) fellowship to develop and implement protocols to investigate insulin sensitivity and diabetes.

Publications and Presentations

- "tRNA modification enzyme-dependent redox homeostasis regulates synapse formation and memory," first author, *PNAS*, March 2024
- "Expanded tRNA methyltransferase family member TRMT9B regulates synaptic growth and function," co-author, *EMBO Reports*, August 2023
- "Neurodevelopmental role of a tRNA methyltransferase implicated in intellectual disability," presenter, Society for Neuroscience, 2022
- "Neurodevelopmental role of a tRNA methyltransferase implicated in intellectual disability," presenter, Cold Spring Harbor Laboratory Neurobiology of Drosophila, 2021