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## CDKL5 Program of Excellence 2020 Pilot Grant Program

**Project Title:** “Incorporation of functional unnatural amino acids into CDKL5 to study function in cells”

**PI:** Maolin Guo, PhD

**Institution:** University of Massachusetts, Dartmouth

CDKL5 disorder is a rare neurodevelopmental condition caused by mutations in the cyclin-dependent kinase-like 5 (CDKL5) protein, which plays critical roles in brain development and function. This project proposes to use a chemical biology approach to create CDKL5, and its pathogenic variants, containing functional unnatural amino acids to enable the study of their expression, subcellular location, trafficking, and dynamics, as well as to identify its interaction partners in live cells. The study will provide a better understanding of CDKL5 in biological processes which may aid the identification of novel therapeutic strategies.