

Proposed BCHM 421/422 Project Outline – Project #2

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Project Title: Structural basis of eukaryotic elongation factor 2 kinase activation by calmodulin

Keywords (3-5): structural biology, protein phosphorylation, kinase activity and activation

Project Goals:

1. Screen for optimal constructs for expression and purification
2. Form stable complex between the kinase and calmodulin
3. Assay kinase and ATPase activities in the presence and absence of calmodulin
1. Design cell-based experiments to test structure-based constructs

Experimental Approaches:

1. Cloning, protein expression and purification
2. Biochemical characterization of calmodulin binding
3. Enzymatic assays
4. Crystallization and structure determination
5. Cell biology