Research In Progress Seminars

Tuesday, October 25, 2016
2:00PM

Location: The Fishbowl, 2120 Biological Sciences 3

Speaker:
Leo Lagunes, Developmental & Cell Biology

Talk Title:
Investigation of Multisite Protein Phosphorylation

Abstract:
One of the most important mechanisms that regulate protein activity is protein phosphorylation. Phosphorylation can affect a protein's enzymatic activity, location, stability, or interactions with other proteins. Interestingly, many phosphorylated proteins are multisite proteins, meaning that they are phosphorylated on more than one site. However, why multisite phosphorylation in so widely used is not well understood. Furthermore, determining which particular sites or combination of sites have downstream regulatory effects is a challenging task. This talk will focus on a combination of mathematical modeling and experimental analysis to better understand the interaction of protein kinases with their substrates and the function and mechanism of multisite phosphorylation. Specifically, we will discuss (1) a mathematical model, assuming variable phosphorylation dynamics at each site, and (2) experimental measurements of the kinetic parameters that determine the rate of phosphorylation and activation of cJun (a transcription factor in the JNK pathway).

Questions:
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