



Department of Cell Biology Research Forum

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“Role of Conserved NDR Kinase in the Control of Cell Morphogenesis”



“The conserved NDR (Nuclear DBF2 Related) kinase pathway plays a key role in the control of cell morphology and cell proliferation in eukaryotes ranging from yeast to mammals. In humans, decrease of NDR kinase expression has been observed in gastric tumors and lymphomas, suggesting a role in the onset of disease. Our understanding of the specific cellular functions and targets of NDR kinase is still limited. We have previously identified the fission yeast NDR kinase Orb6 and defined its role in the spatial control of Cdc42 GTPase, a key regulator of cell polarity, and in promoting Cdc42 oscillatory dynamics. We also found that Orb6 kinase has a distinct function in promoting polarized cell growth, by controlling mRNA degradation. Using genomic-scale and proteomic approaches we have identified additional Orb6 kinase targets. Furthermore, we find that Orb6 kinase has a novel role in regulating cell polarity and cell growth during the onset of cell quiescence. We propose the idea that by coordinating seemingly diverse cell functions that control morphology and growth, Orb6 kinase enables an efficient transition amongst different physiological states, from active cell growth to starvation-induced cell quiescence.”

Tuesday, May 30th, 2017

12:00p-1:00p

**Rosenstiel Medical Science Building
4th Floor Auditorium**

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