

P022 Regulation of the cytokinetic ring by the SIN pathway in fission yeast

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In eukaryotes, progression through the cell cycle involves a dramatic reorganization of the cytoskeleton leading to the formation of a mitotic spindle and a contractile actomyosin ring (CAR) in mitosis. At the onset of cytokinesis, the spindle breaks down and the CAR subsequently contracts to separate the two daughter cells. In the fission yeast *Schizosaccharomyces pombe*, the onset of cytokinesis is coordinated with the end of mitosis by a signal transduction pathway named SIN (for Septation Initiation Network). In this study we investigate to what extent the SIN regulates the CAR. First, using a gain of function approach we show that SIN activation is sufficient to trigger CAR assembly and contraction in interphase. Second, using a loss of function approach we investigate the involvement of the SIN in three aspects of CAR regulation: assembly, maintenance and contraction. Finally, we are attempting to identify targets that mediate CAR regulation by the SIN.