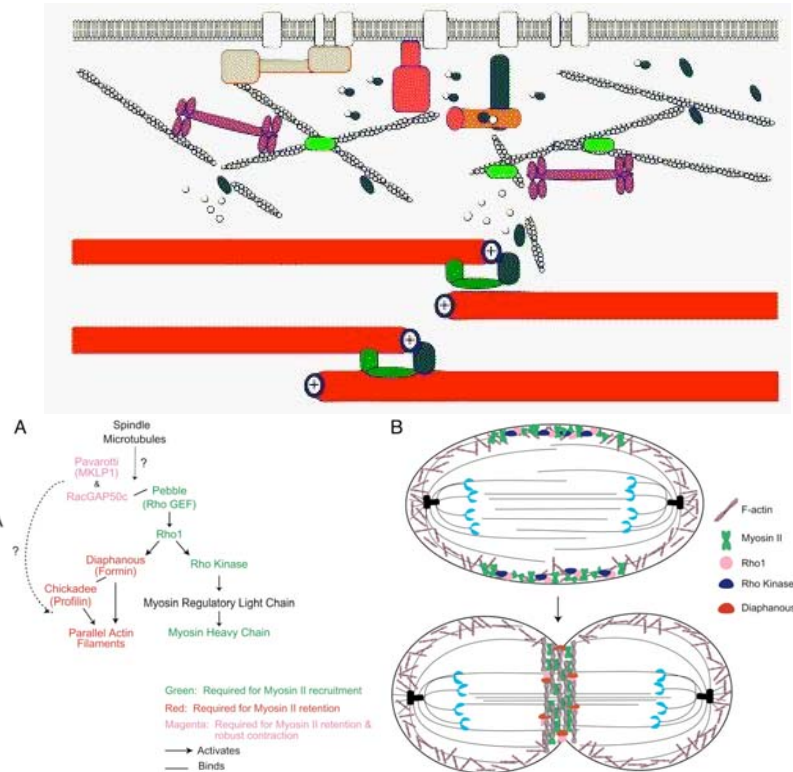
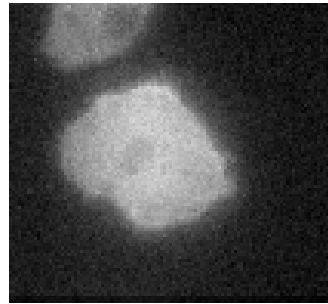


Molecular Mechanism of Cytokinesis Mechanics

Jung-Chi Liao

Molecular and cellular mechanics both play important roles in cytokinesis during cell division.



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The stress and strain of cytokinesis

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Mechanics and regulation of cytokinesis

Douglas N Robinson¹ and James A Spudich²

Current Opinion in Cell Biology 2004, 16:182-188

Sample questions:

1. How is the force transmitted from myosin to the furrow cortex?
2. Molecular mechanism for dynamics regulation?
3. How to reproduce the mutational effects on the cleavage rate?

Computational approaches:

1. Continuum model for cellular level.
2. Kinetic or Fokker-Planck model for molecular interactions.
3. Bayesian network model to find missing links.