

Supplementary Material

Epithelial Vertex Models with Active Biochemical Regulation of Contractility can Explain Organized Collective Cell Motility

Sarita Koride¹, Andrew Loza³, Sean X. Sun^{1,2,4,*}

1 Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD, USA

2 Mechanical Engineering, Johns Hopkins University, Baltimore, MD, USA

3 Department of Cell Biology, Washington University School of Medicine, St. Louis, MO, USA

4 Institute of NanoBioTechnology, Johns Hopkins University, Baltimore, MD USA

* ssun@jhu.edu

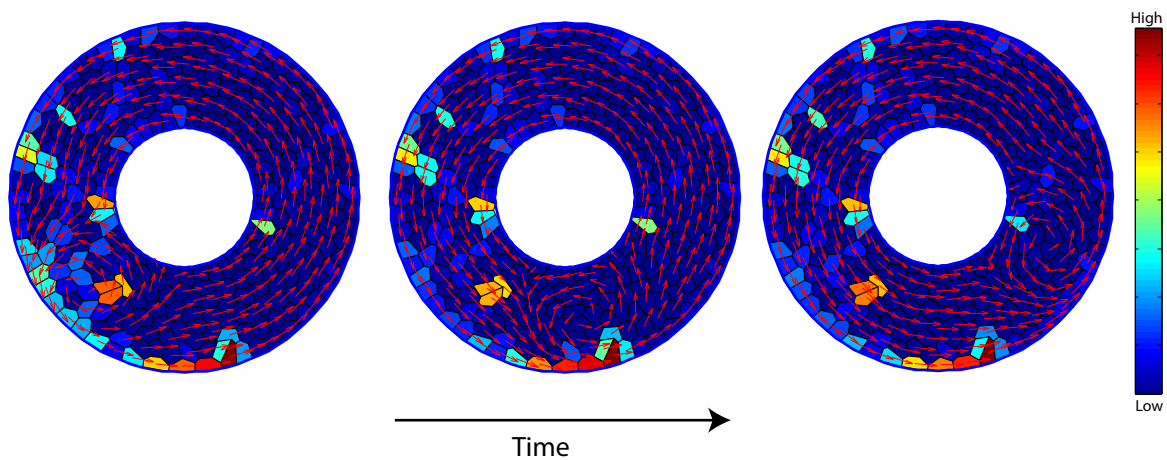


FIG. 1. *

Fig S1. Vortex propagation seen. The vortex formed in cell velocities when cells are confined to a ring structure propagates in space and time as shown. The color of the cell represents the myosin content. Few cells at the borders have higher myosin content than the rest.

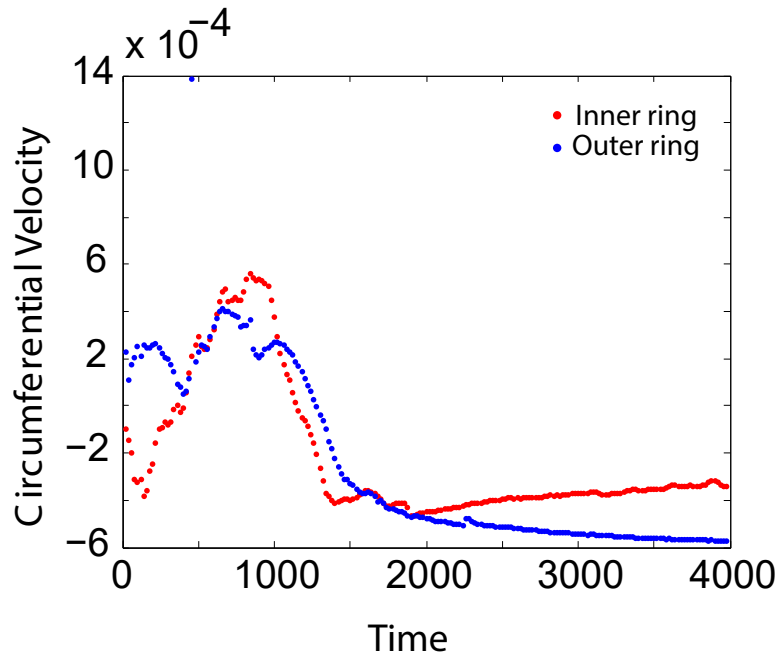


FIG. 2. *

Fig S2. Cell velocity at the inner and outer ring boundaries without signaling.

Mean circumferential velocity ($n = 4$, $N = 300$) at the inner (red) and outer (blue) boundaries plotted as function of time. Positive velocities represent counter clock wise rotation and negative velocities represent clockwise rotation. Counter rotation at the ring boundaries is not seen.

Supplementary Movie

SM1: Myosin content in streaming cells shows wave like patterns over time