Supplemental Materials

Molecular Biology of the Cell

Cho et al.

Quantification of the cell body orientation (Figure S1)

To calculate the cell body reorientation, first, we opened the phase image of the collective monolayer in the Image J and optimized the brightness and contrast of images to visualize the distinct boundaries of individual cells. Second, we drew individual cell boundaries respectively on the phase image and registered as ROI. After this process, the ROI was ellipsoidal fitted in the Image J. The best fitting ellipse is defined to have the same area, orientation, and centroid with the original cell boundary. The major and minor axes of the cellsarethe primary and secondary axes of the best fitting ellipse. The orientation angle represents the angle between the primary axis and a line parallel to the vertical axis in the image plane, which is the direction of the EF stimulation in our manuscript.

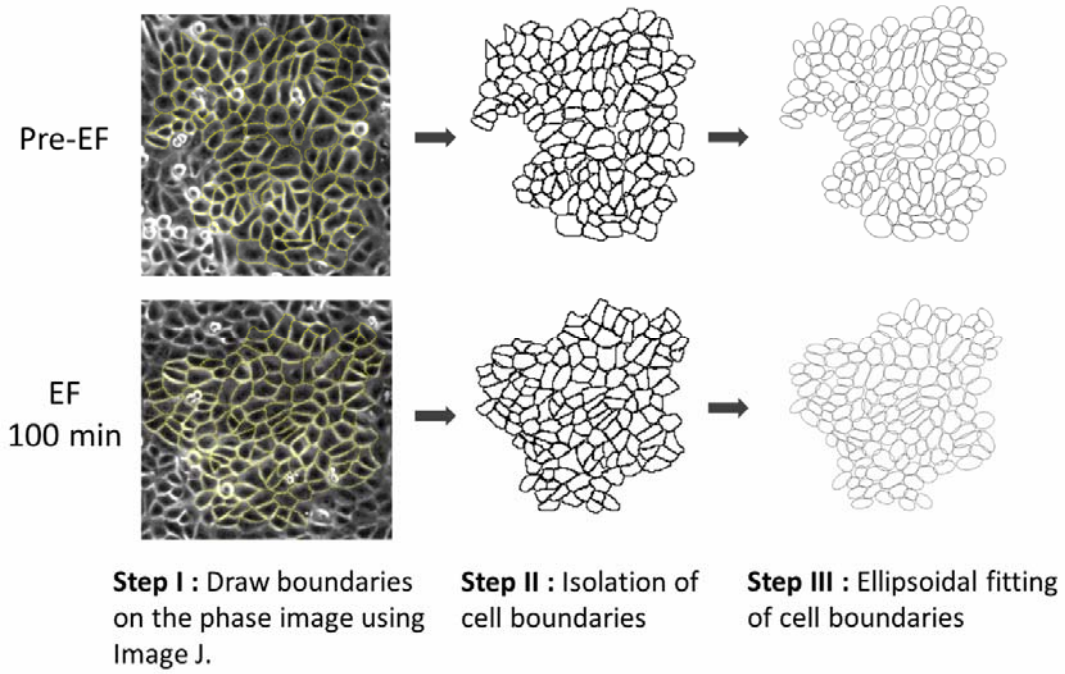

Figure S1. Process of the isolation of cell boundaries from phase images and ellipsoidal fitting for pre-EF and 100 min after EF stimulation samples.