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**Supplemental information**

**Using optogenetics to link myosin patterns to contractile cell behaviors during convergent extension**

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## SUPPORTING FIGURES

Figure S1

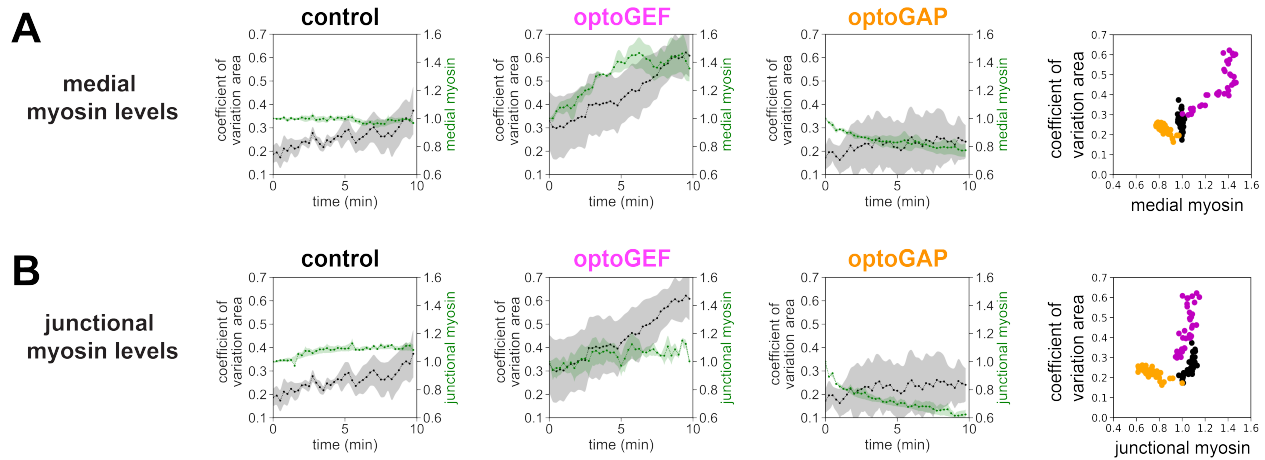


Figure S1. Relationships between the coefficient of variation in apical cell area and various metrics of tissue-level myosin patterns for germband cells in control (*black*), optoGEF (*magenta*), and optoGAP (*orange*) embryos during 10 min of blue-light illumination of the apical surface of the tissue during axis elongation. (A) (*Left*) Cell area coefficient of variation (*black*) and medial myosin intensities relative to the value at  $t = 0$  (*green*) over time. (*Right*) Cell area coefficient of variation vs. medial myosin intensities. (B) (*Left*) Cell area coefficient of variation (*black*) and junctional myosin intensities relative to the value at  $t = 0$  (*green*) over time. (*Right*) Cell area coefficient of variation vs. junctional myosin intensities. Mean  $\pm$  SEM between embryos is shown,  $n = 12$  cells per embryo, 3-4 embryos per genotype. See also Fig. 4.

Figure S2

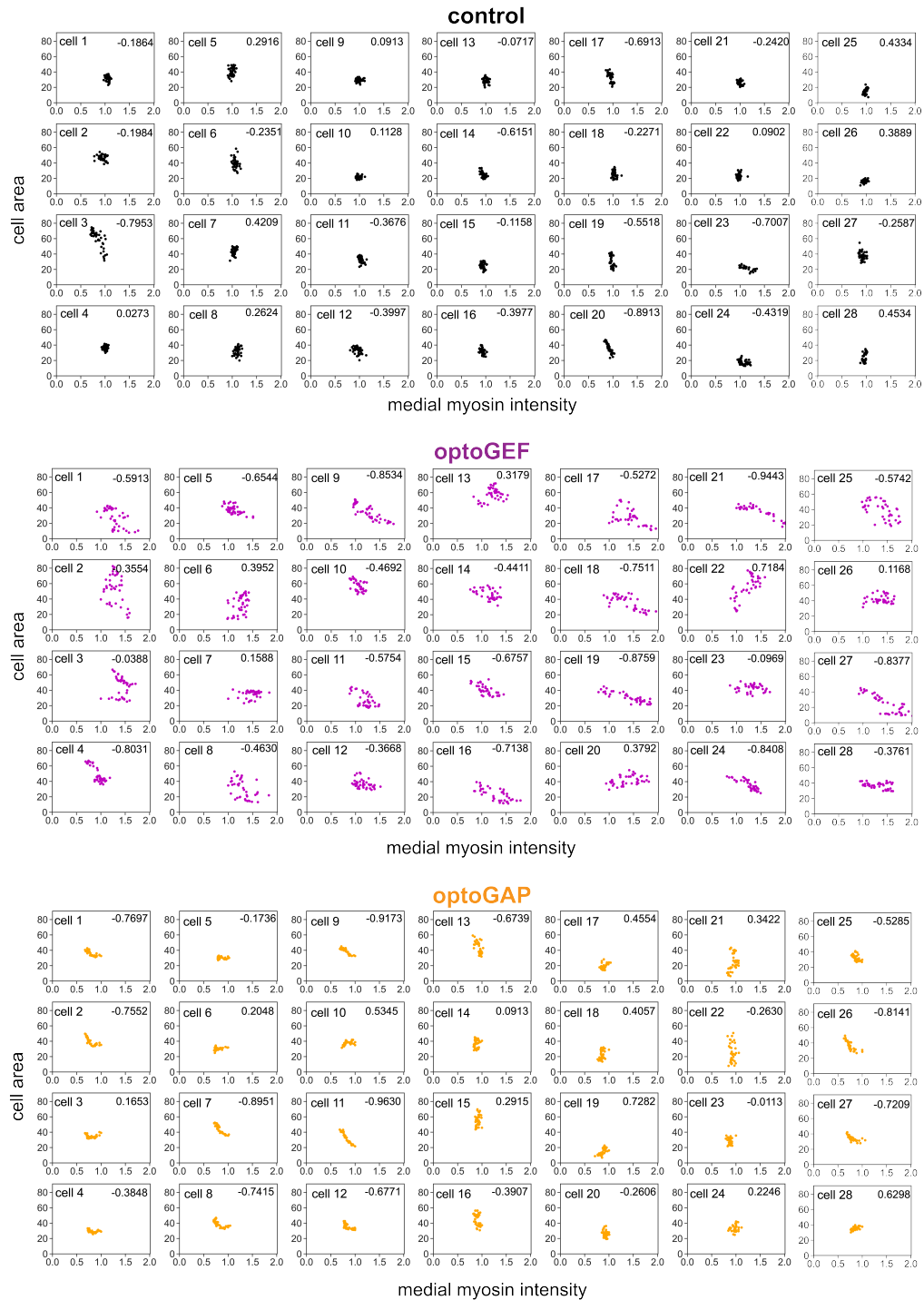


Figure S2. Relationship between apical cell area and medial myosin intensity over time for individual cells. Cell areas are in units of  $\mu\text{m}^2$ . Myosin intensities are relative to the value at  $t = 0$  for each cell. Each data point represents the cell values at a single time point. Values in top right corner of each plot indicate correlation coefficient for each plot. See also Fig. 5.