

Supporting Information:

Coordination between intra- and extra- cellular forces regulates focal adhesion dynamics

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Supplementary Figures

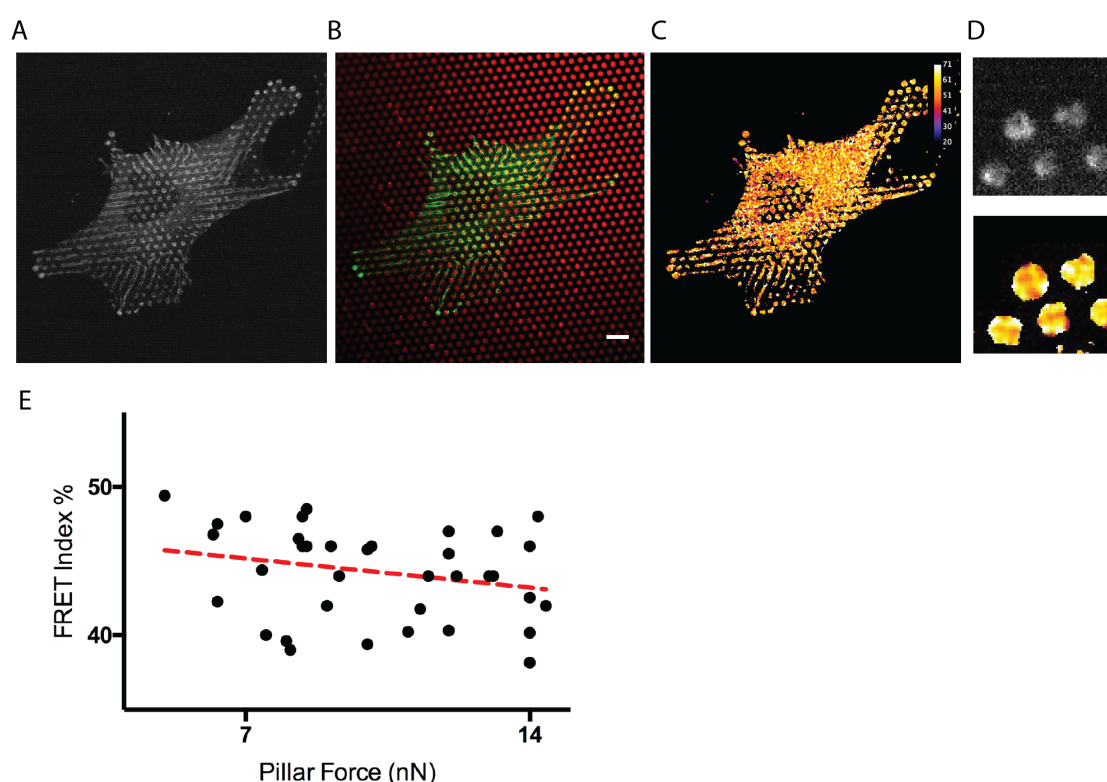


Figure S1: (A) MEF cells expressing VinTL (Tailless variant of the vinTS). (B) Composite image showing the pillars (red), and the VinTL (green). (C) Corresponding FRET index image and (D) zoomed in section showing the FAs and their corresponding FRET index Image. (E) Plot of FRET index of FAs with VinTL and corresponding pillar force (N=29). The red dashed line represents the linear fit. Due to the lack of attachment to F-actin, VinTL is unable to sense the force transmitted through the FAs thereby showing a weak correlation (Correlation coefficient = -0.24) with the external force.

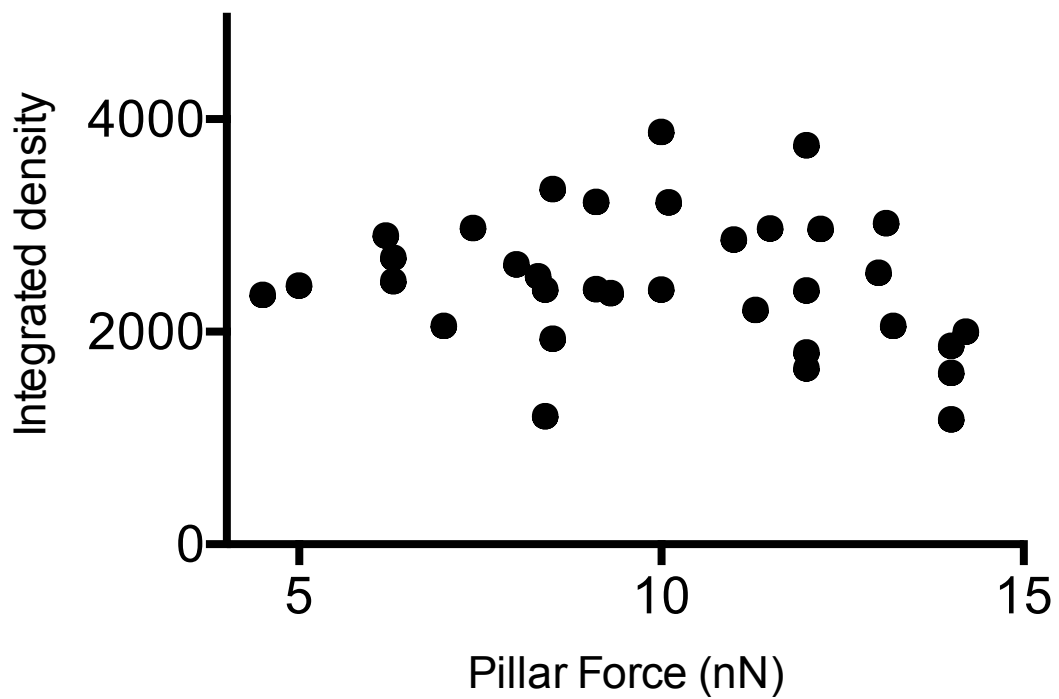


Figure S2: Integrated density of VinTs intensity as a function of pillar force. No correlation was observed between the protein content (given by the integrated density of intensity) and the corresponding pillar force (N=34).

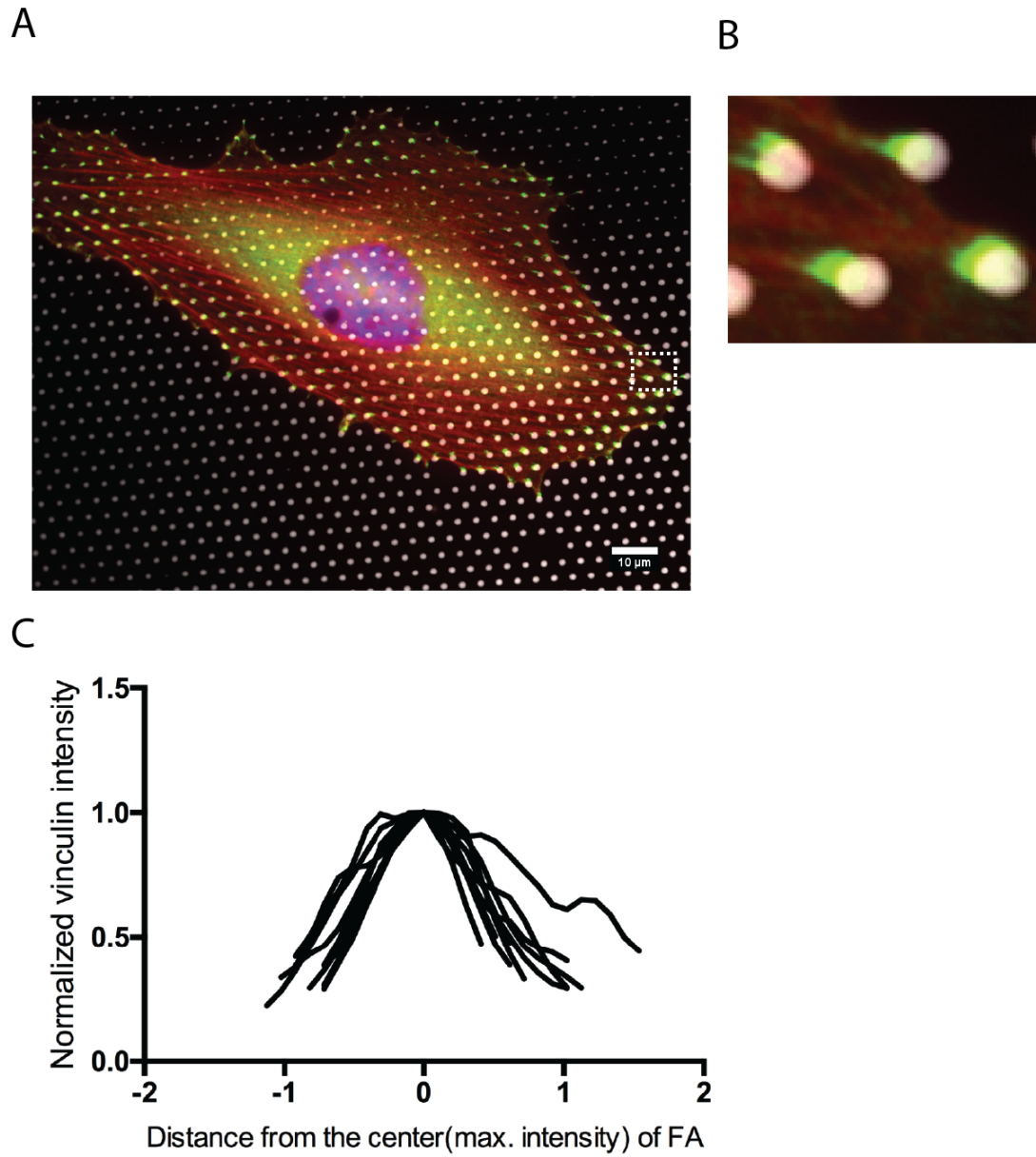


Figure S3: Composite image of REF cells on pillars showing immunostained vinculin (green), actin (red), nucleus (blue). Pillars are coated with fluorescent fibronectin (white). (B) Zoomed-in section showing FAs on pillars. (C) Intensity profile of vinculin along the FAs. This shows very similar profile as those obtained from FAs with VinTS (N=10).

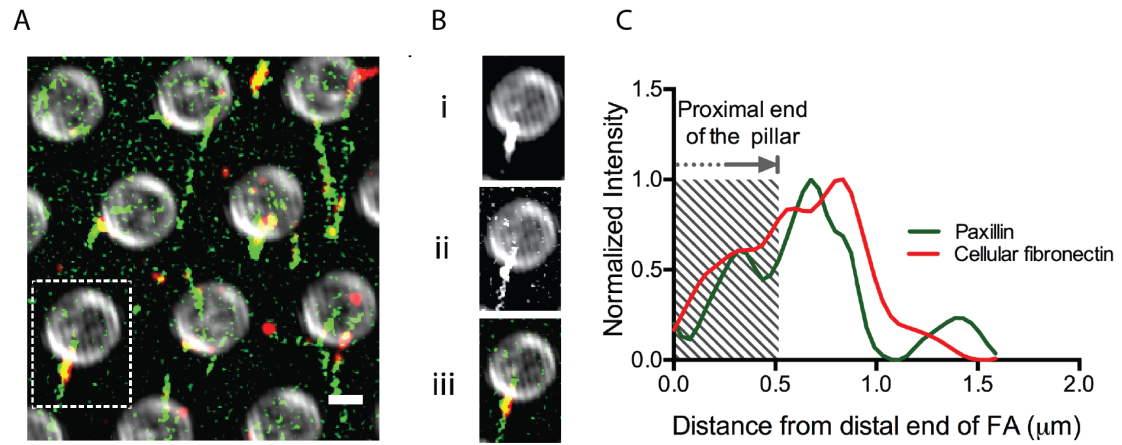


Figure S4: (A) REF52 cells expressing cellular fibronectin (red) and paxillin (green) on micropillar (white). (B) Zoomed-in view of on FA on a pillar with (i) cellular fibronectin, (ii) paxillin and (iii) merged images showing the co-localization. (C) Representative plots of fluorescence intensity of paxillin (green) and cellular fibronectin (red).