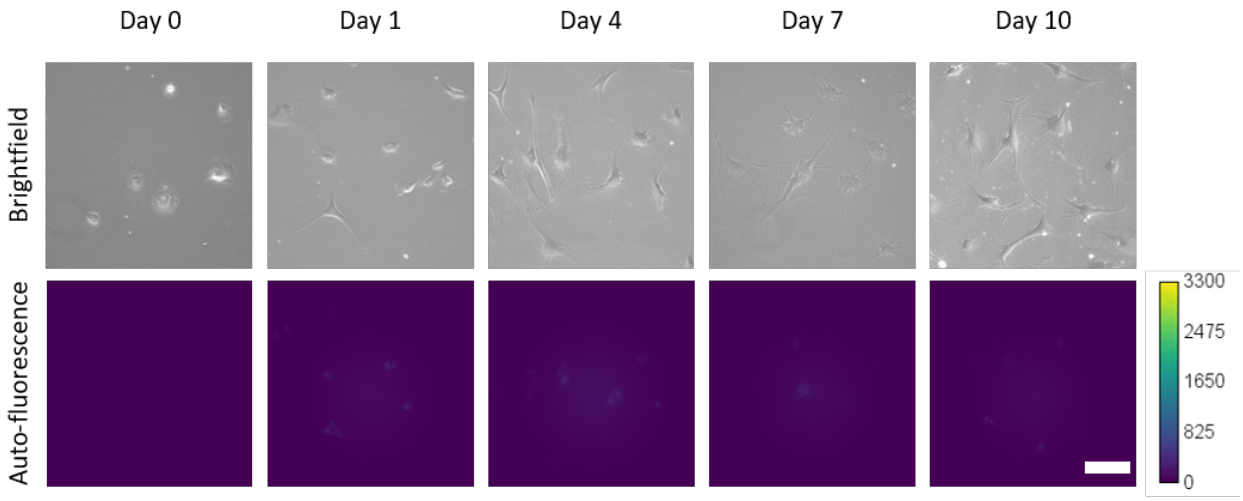
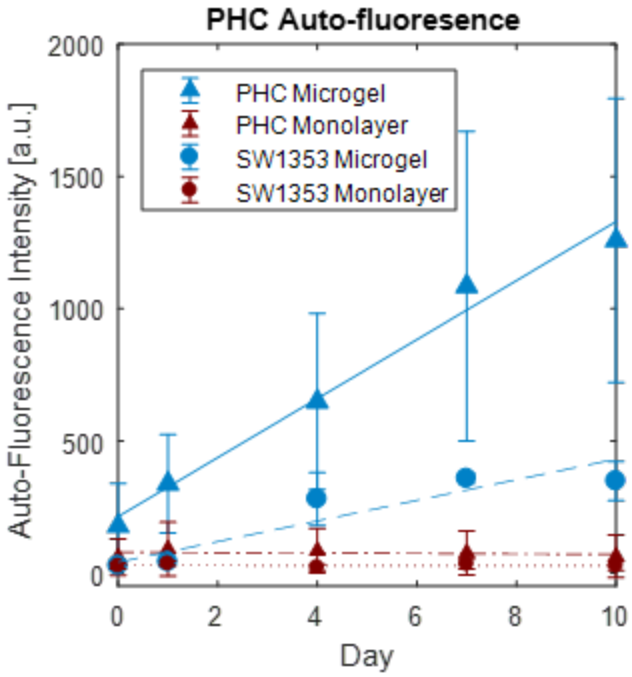
Supporting Information

Title: Pericellular Matrix Formation and Atomic Force Microscopy of Single Primary Human Chondrocytes Cultured in Alginate Microgels

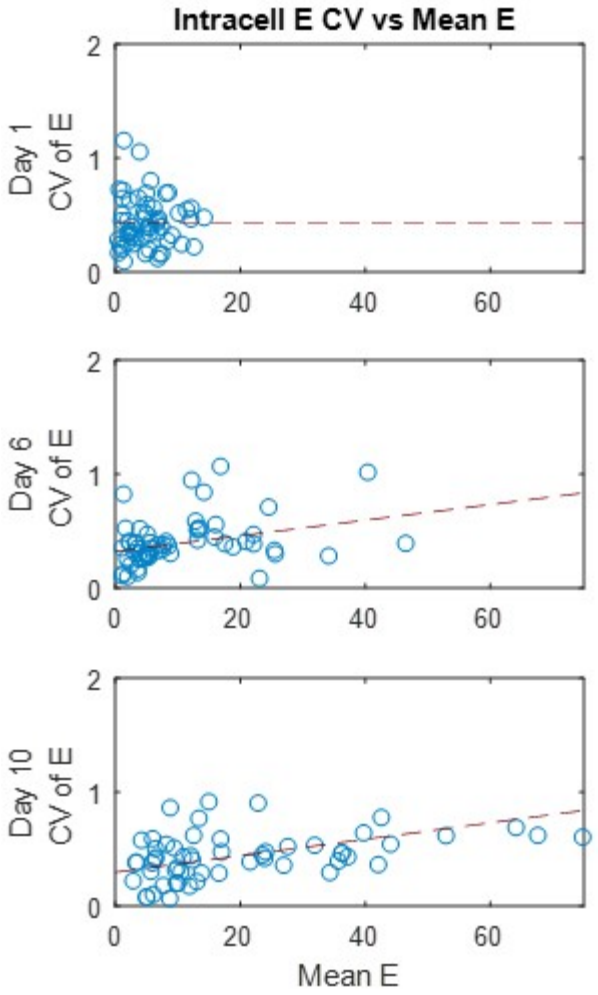
Authors: Jacob P. Fredrikson[1,2], Priyanka P. Brahmachary[3], Ronald K. June[3, 4], Lewis M. Cox[3], Connie B. Chang[1,2,5*]



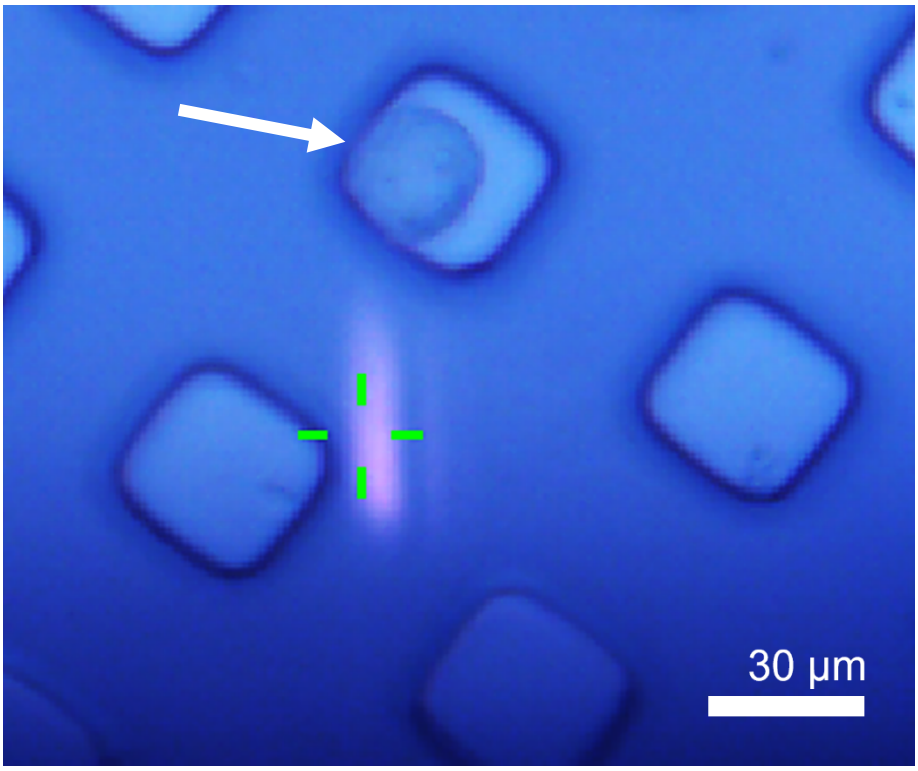
SI Figure 1: Auto-fluorescence imaging; Brightfield and fluorescence images (ex. 350/em. 470) of PHCs encapsulated grown in monolayer and cultured for 10 days. Scale bar is 25 µm.



SI Figure 2: Auto-fluorescence imaging; Measured mean fluorescence intensities of imaged PHCs and SW1353 cells over time with weighted multiple linear regressions. PHCs encapsulated in microgels (blue triangles, solid line) and PHCs grown in monolayers (red triangle, dot-dash). SW1353 cells encapsulated in microgels (blue circles, dashed) and SW1353 cells grown in monolayers (red circles, dotted).



SI Figure 3: The average *E* for each cell plotted versus its CV for PHCs grown in microgels on days 1, 6, and 10. Dashed lines represent fits from linear regressions. On day 1, intracell CV of *E* did not correlate with each cell's average *E* (p =0.84). On days 6 and 10, the intracell CV of *E* was found to positively correlate with each cell's average *E* (p = 0.011 and p = 0.000011).



SI Figure 4: A representative image of a PHC centrifuged into a well-trap. The image was taken with the Cypher AFM's camera. The white arrow points to a cell. The green marker is part of the software.