

## Supplementary Material for –

### Dynamic Single Cell Culture Array Dino Di Carlo, Liz Y. Wu, and Luke P. Lee

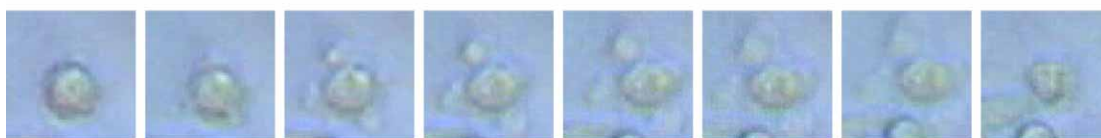


19.10 h 21.40 h 21.96 h 22.09 h 22.29 h 23.29 h 23.58 h 23.71 h 23.79 h 24.00 h

**Supplementary Figure 1** Cell division off-chip. An image sequence is shown for a dividing cell grown in static culture on a glass slide. Similar behavior was observed on-chip and cells undergoing this behavior were said to divide. A HeLa cell will initially retract to a spherical shape from its elongated morphology. The sphere then elongates along one axis and pinches off to form the two daughter cells.



0.60 h 1.20 h 1.80 h 2.08 h 2.88 h 3.1 h 3.13 h 3.25 h 5 h



5.08 h 5.1 h 5.13 h 5.23 h 5.28 h 5.33 h 5.4 h 6.38 h

**Supplementary Figure 2** Apoptosis behavior off-chip. An image sequence is shown for a cell undergoing apoptosis in static culture on a glass slide. Cells observed to have similar behavior on-chip were marked as apoptotic. First the HeLa cell displays many irregular membrane evaginations called “blebs”. Next the cell retracts to a spherical stage and then large regular membrane blebs form and other organelles contract.

**Supplementary Video 1 Caption.** A video of single cell culture of an array under constant perfusion of media + 10% FBS over a 24 hour period is shown. The perfusion rate leads to  $\sim 2.5 \mu\text{m s}^{-1}$  average velocity in the trapping region. HeLa cells are shown becoming adherent and dividing in some cases. Two such cases are pointed out with red arrows.