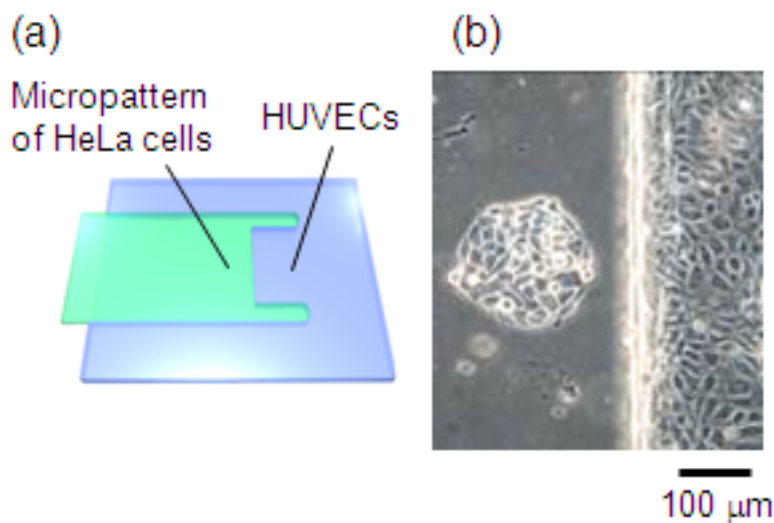


Supplementary Fig. S1. Migration of HeLa cells in a monoculture. The images show HeLa cells (a) at the beginning of a monoculture and (b) seventy-two hours later. The dotted lines trace the edges of the cells. Region *i* was created by assembling with the blank substrate and there is a step smaller than three microns at the boundary. On the other hand, region *ii* was prepared by covering it with a PDMS thin film prior to seeding the cells and removing it just before the joining the two substrates. As seen in (b) the cells migrated almost the same distance in regions *i* and *ii*; therefore, the interlocking edges of the substrates did not introduce an artifact.



Supplementary Fig. S2. (a) A schematic of a coculture containing patterned HeLa cells and confluent HUVECs. The HeLa cell pattern can be altered to control the number of cells grown on the substrate and their initial distance(s) from the HUVECs. Hence, the attractive and repulsive signal gradients produced by the HeLa cells that the HUVECs can sense can be modulated by altering the HeLa cell pattern. (b) A micrograph showing, one patterned HeLa cell colony on the left-hand side of the substrate boundary and a confluent bed of HUVECs on the right-hand side of the substrate boundary.