Supplementary figures

Supplementary Fig. 1 The background and channel-channel variations in the fluorescence plate assays. (A) In order to determine the background sources of the PDMS arrays, microchannels of all four modules (see Fig. 1A) were filled ddH2O or left empty and detected at 450/590 nm. The background levels from channels increased after filling with ddH2O compared to channels left empty (P < 0.05, n = 6). (B) and (C) The 1.25 µl microchannels with the layout shown were used to examine the signal variance between channels. Channel A1~ E6 were filled with fluorescence bead solution (16,000 beads per channel) and channel F1 ~ F6 were filled with ddH2O as controls. The variations of the readings from channel A1~ E6 were compared between (B) rows and (C) columns. No significant differences were found between the measurements of individual channels (P > 0.05).

Supplementary Fig. 2 Post plate-assay immunocytocchemistry characterization of MECs. MECs were supplied with 15 µM Bromo-Deoxyuridine (BrDu, Roche, 1-299-964) during 24-48 hour microchannel culture period. The MECs stained with Hoechst 33342 were analyzed with plate reader followed by staining with antibodies specific to Brdu and cytokeratin 5, cytokeratin 8 or E-cadherin inside of microchannels. Distinctive MEC populations expressing different antigens are clearly seen from these images.