

Supplementary Information

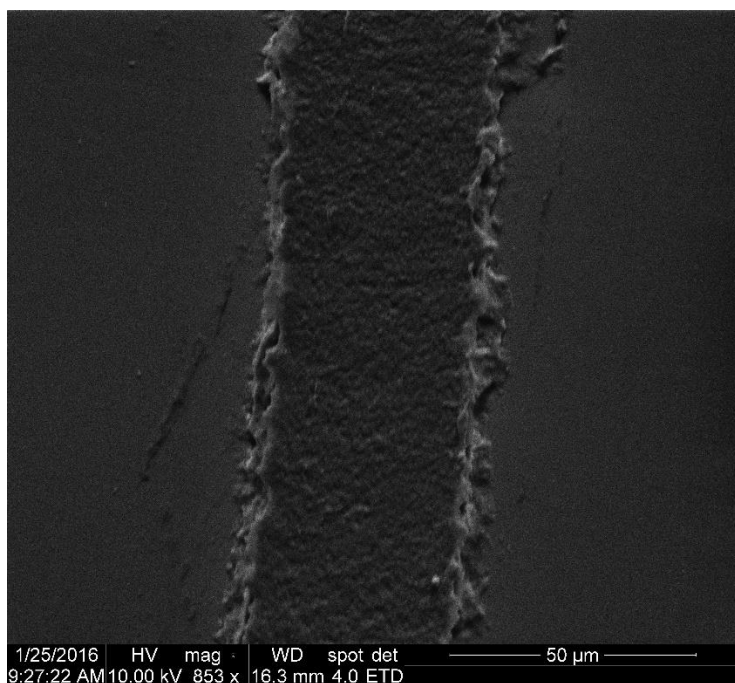


Figure S1. SEM of carbon ink microelectrode at 853X magnification.

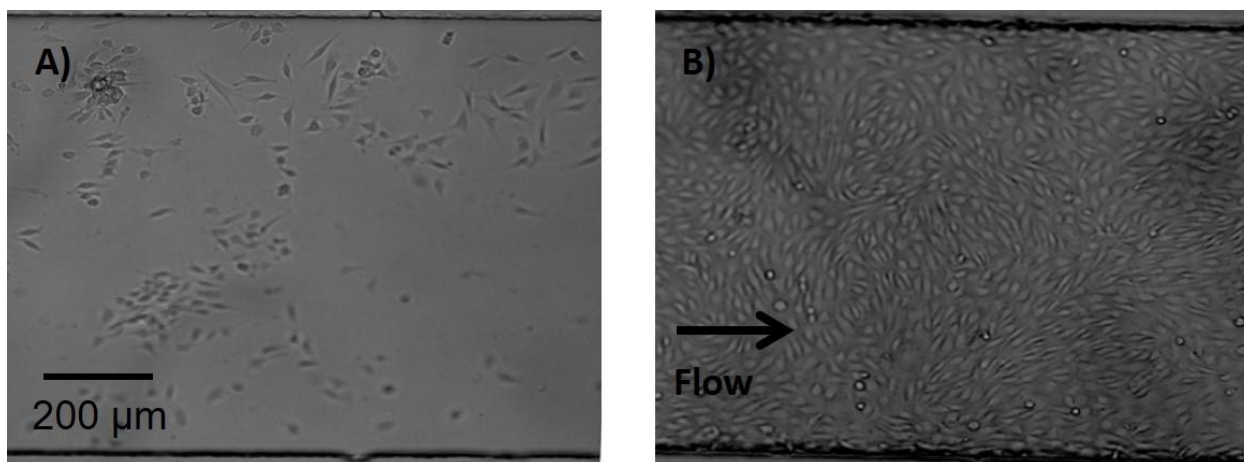


Figure S2. Bright field images of ECs cultured on-chip A) 48 hours after immobilization, and B) 9 days after immobilization. Flow was initiated at 50 nL/min after 1 day.

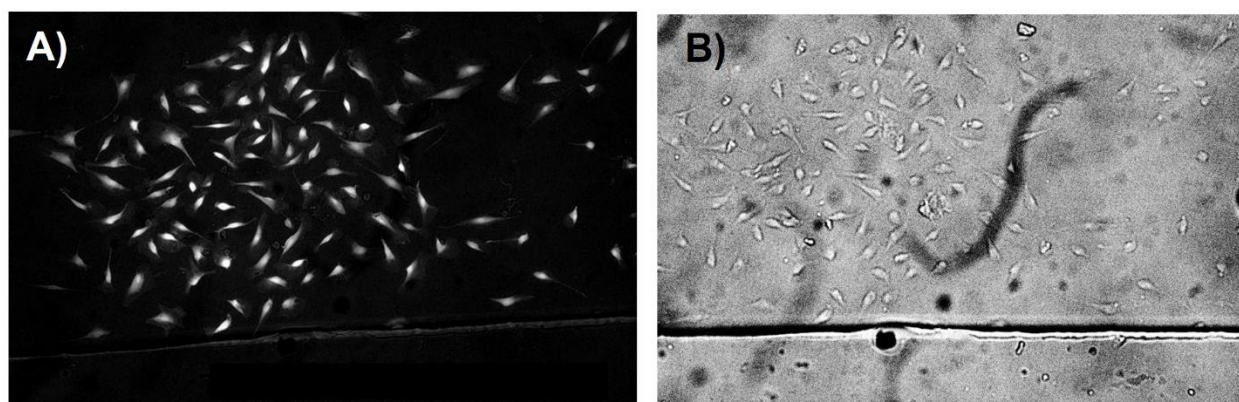


Figure S3. A) Fluorescence micrograph of ECs stained with calcein AM before on-chip lysis. B) Bright field image of the same region of ECs after on-chip lysis.

Cell Type	Electric Field	Lysis Time	Pulse Length	Comments	Reference
Leukocytes	10 V, 4 Hz pulse (Electric field not reported)	~3 s	100 μ s	Flowing cell suspension	Biosensors and Bioelectronics 2006 , 22, 568–574
Human epidermal cells	1000 V/cm	7 s	Up to 9 s	Flowing cell suspension	Micromachines 2013 , 4, 243–256
HeLa cells	30 V (Electric field not reported)	25 s	N/A	Cells patterned in microwells	Sensors 2012 , 12, 6967–6977
HeLa, MCF-7, Jurkat, and CHO-K1	11 V/cm	5 min	N/A	Electrical lysis of adherent cells via hydroxide generation	Lab Chip 2007 , 7, 1689–1695

Table S1. Parameters and cell lysis times for on-chip electroporation experiments reported in the literature.