

Supporting Information

Sheathless Acoustic Fluorescence Activated Cell Sorting (aFACS) with High Cell Viability

Peixian Li ¹, Minhui Liang ¹, Xiaoguang Lu ¹, Joycelyn Jia Ming Chow ¹, Chrishan J.A.
Ramachandra ^{2,3} and Ye Ai ^{*,1}

¹ Pillar of Engineering Product Development, Singapore University of Technology and
Design, Singapore 487372, Singapore

² National Heart Research Institute Singapore, National Heart Centre Singapore, Singapore
169609, Singapore

³ Cardiovascular and Metabolic Disorders Program, Duke-National University of Singapore
Medical School, Singapore 169857, Singapore

* Corresponding author. Email: aiye@sutd.edu.sg; Tel: (+65) 6499 4553

Supplementary Figures

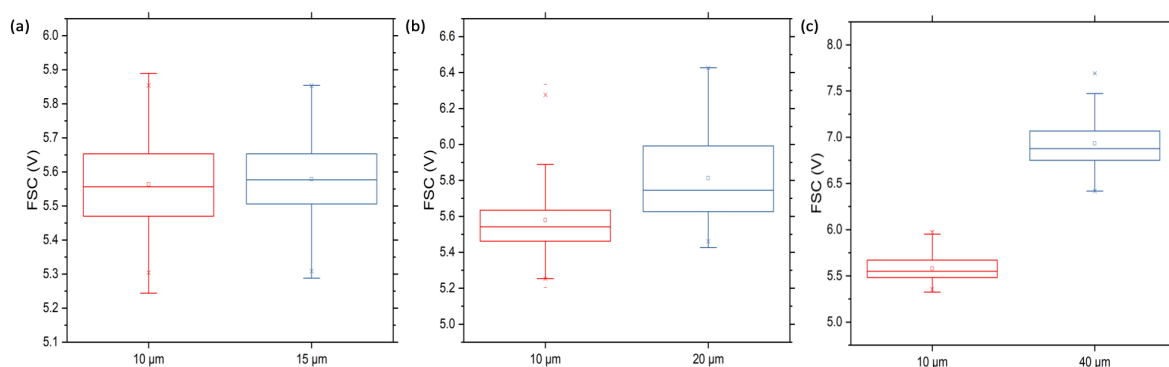


Figure S1 Forward scattering (FSC) measurement of particles with different sizes. (a) FSC signals between 10 and 15 μm polystyrene particles without significant difference. (b) FSC signals between 10 and 20 μm polystyrene particles with statistically significant difference. (c) FSC signals between 10 and 40 μm polystyrene particles with statistically significant difference.

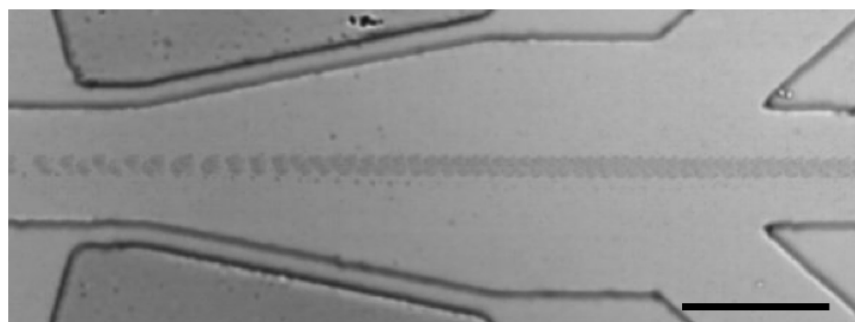


Figure S2 Superimposed image with 40 frames over 30 ms to show elasto-inertial focusing for cell alignment at a flow rate of 20 $\mu\text{L}/\text{min}$. The scale bar is 100 μm .

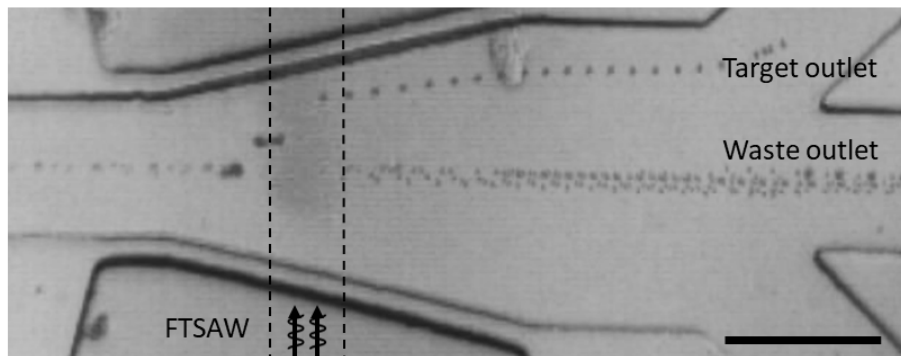


Figure S3 Superimposed image with 40 frames over 30 ms to demonstrate 3 μm fluorescent polystyrene particle sorting. The scale bar is 100 μm .

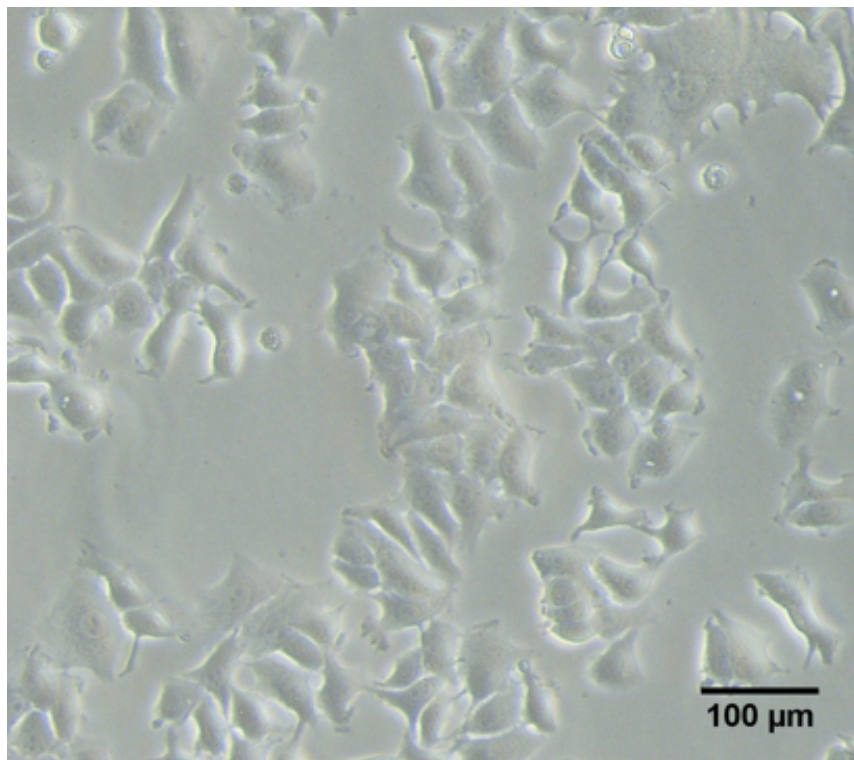


Figure S4 A representative microscopic image of sorted MCF-7 cells after culture for 24 hours.