Microfluidic Electroporation of Tumor and Blood Cells: Observation of Nucleus Expansion and Implications on Selective Analysis and Purging of Circulating Tumor Cells

Ning Bao[†#], Thuc T. Le[‡], Ji-Xin Cheng[‡], Chang Lu[†‡§*]

†Department of Agricultural and Biological Engineering, ‡Weldon School of Biomedical Engineering, §School of Chemical Engineering, Purdue University, West Lafayette, Indiana 47907, USA
#School of Public Health, Institute of Analytical Chemistry for Life Science, Nantong University, Nantong, China

Electronic Supplementary Information

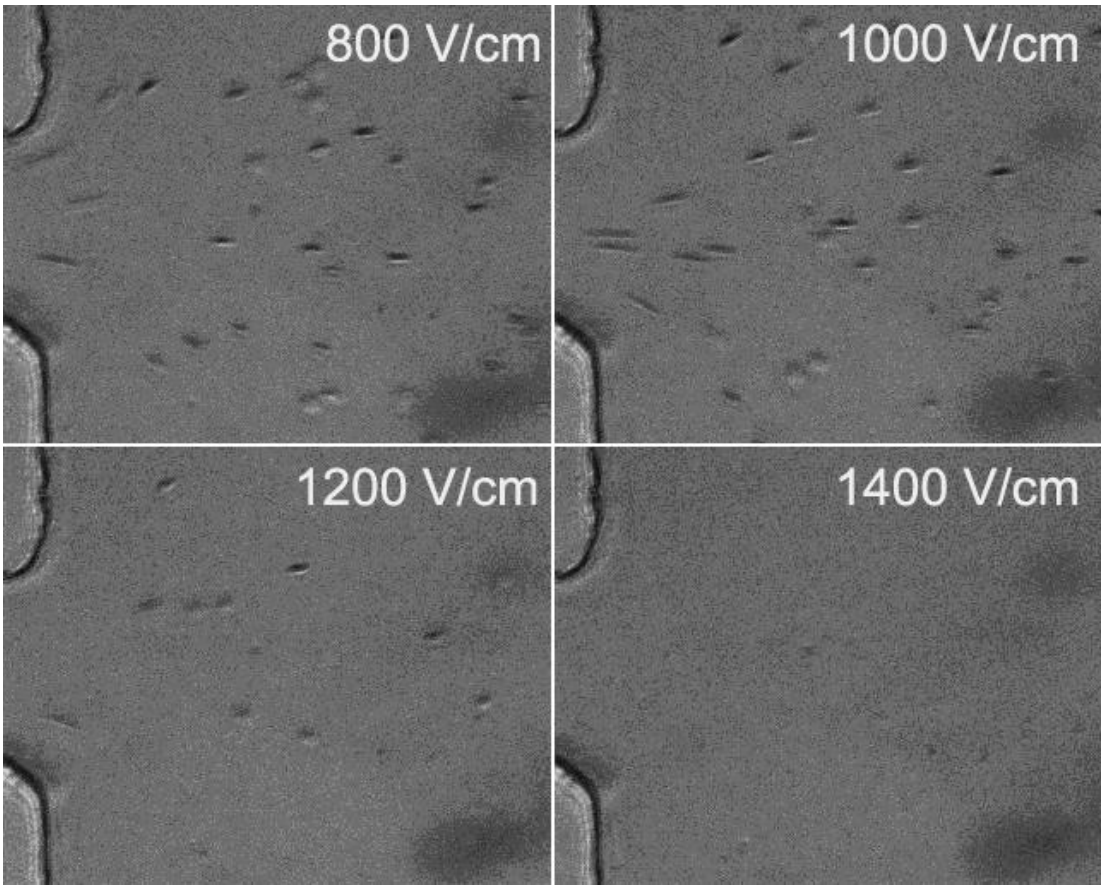

Figure S1. Time-lapse phase contrast images of RBCs during electroporation with different field intensities. With the increase of field intensity, fewer RBCs could be observed in the wide section due to their rapid disintegration in the narrow section.

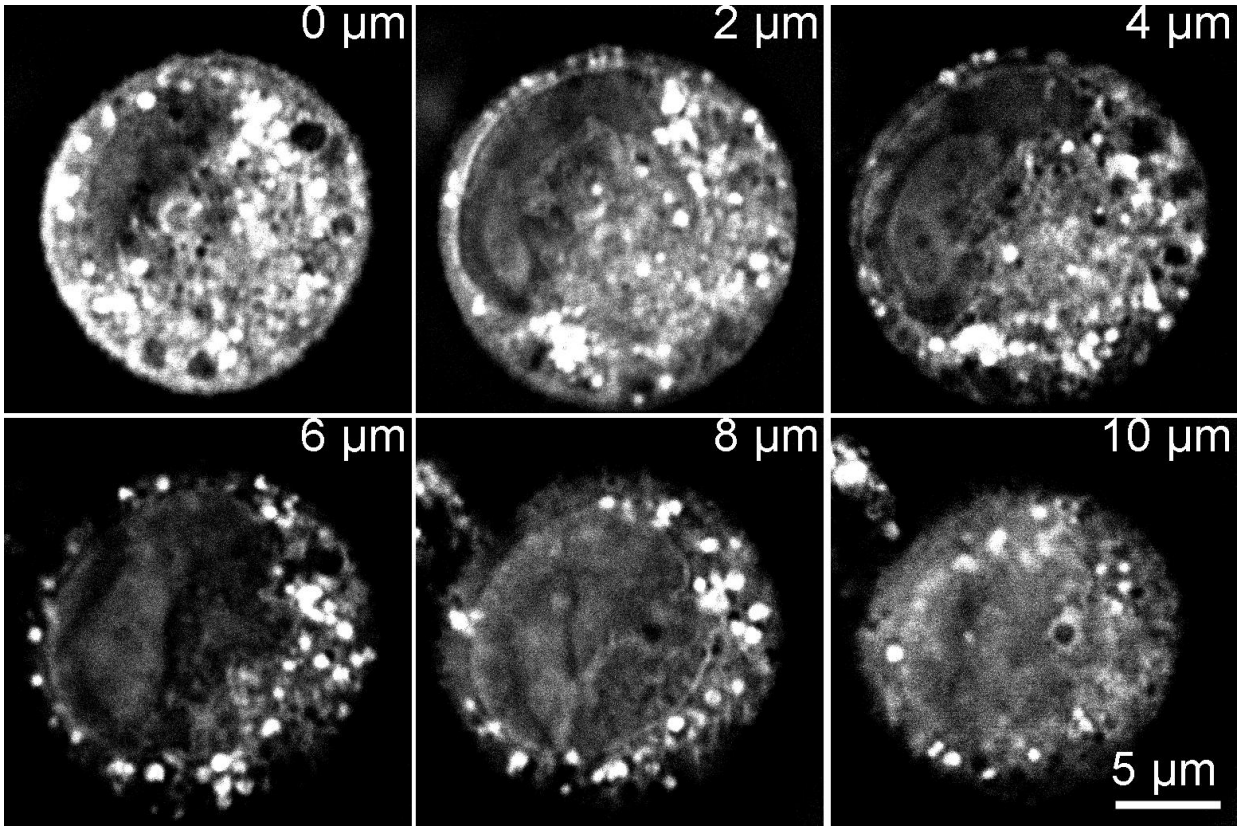

Figure S2. CARS images of a M109 cancer cell taken along the vertical axis (Z= 0-10 µm). Note the absence of lipid-rich organelles (indicated by intense CARS signal) in the nucleus.