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Supporting Information

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Trapping and Photoacoustic Detection of CTCs at the Single Cell per Milliliter Level with Magneto-Optical Coupled Nanoparticles

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Supplementary Materials

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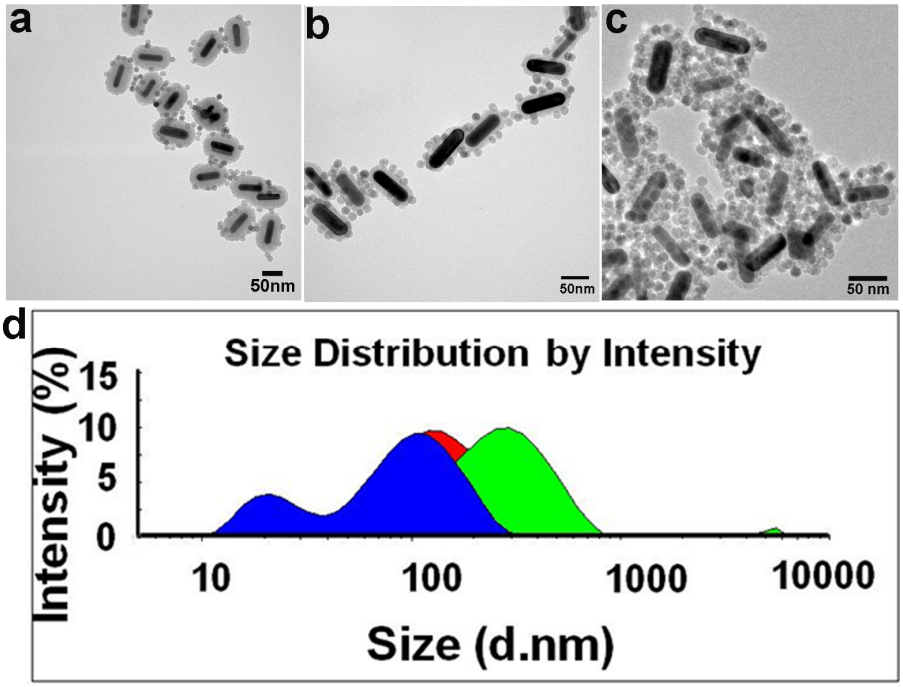

Figure S1. Characterization of AuNR-silica-MNP multifunctional nanoparticles with various MNP coating densities. (a-c) TEM images of coupled nanoprobes with low (a), medium (b), and high (c) density of MNPs. At low and medium MNP density, the coupled nanoprobes show good dispersity, whereas high density leads to aggregation. (d) Corresponding dynamic light scattering (DLS) data of the three AuNR-silica-MNP samples. The blue, red, and green curves correspond to the samples shown panel a, b, and c, respectively.

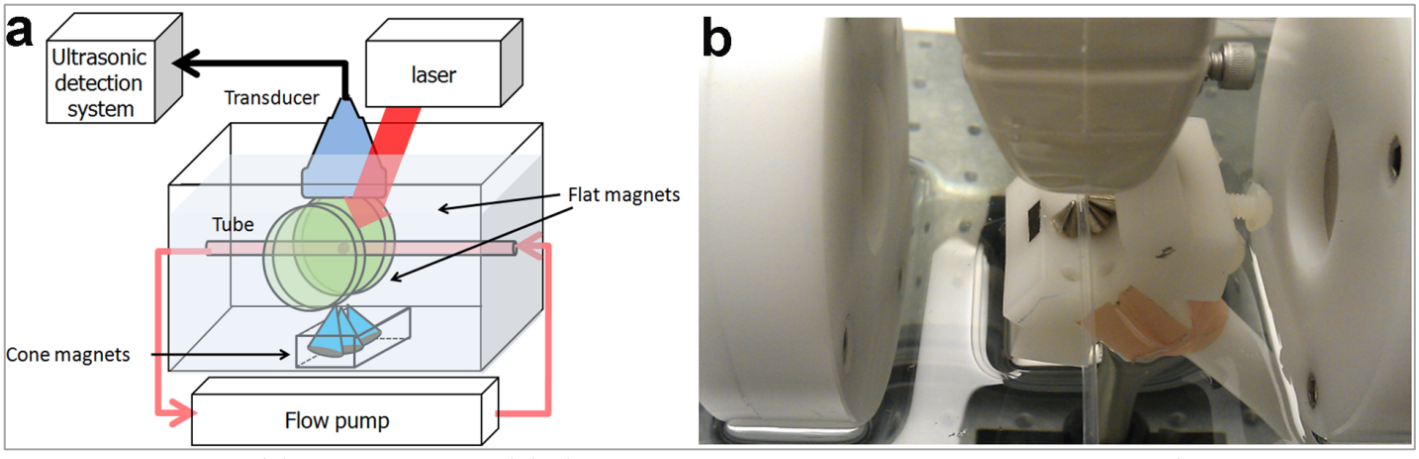

Figure S2. Schematic (a) and actual photo (b) of the CTC trapping and imaging system composed of a dual-magnet part, a continuous flow circulation part, an optical illumination head, and an US detector.

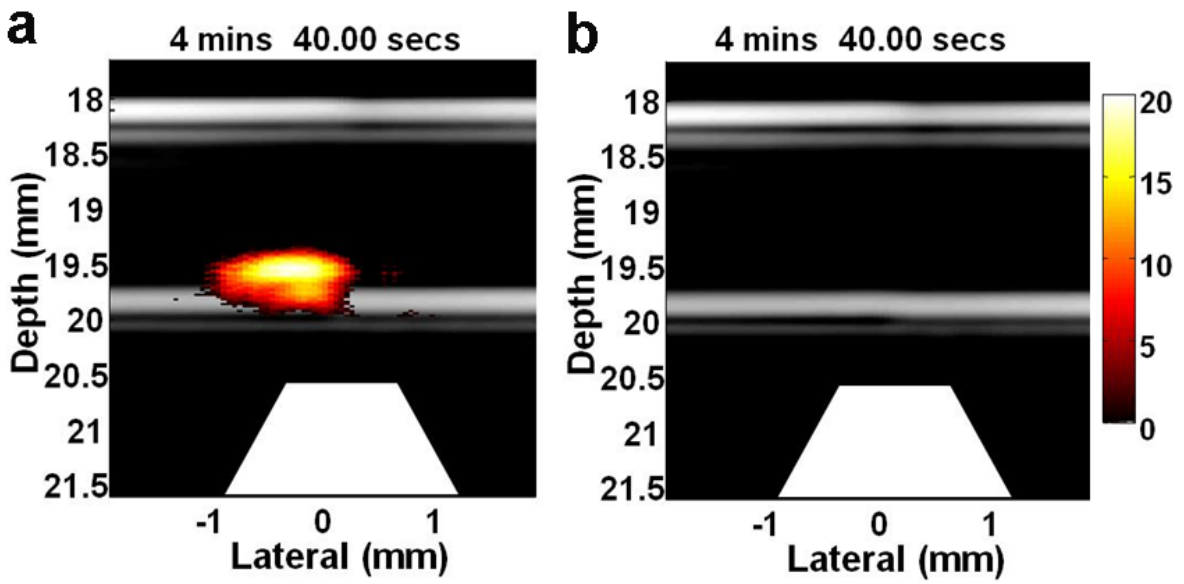

Figure S3. Combined US and PA images of captured HeLa cells labeled with (a) GNR-silica-MNP-FA (b) GNR-silica-MNP-FA together with 1 mM free folic acid in cell-culture plate. All the samples were measured at cell concentration of 5000 cells/mL.