Electronic Supplementary Material (ESI) for Lab on a Chip

Quantitative Measurement of Quantum Dot Uptake at the Cell Population Level Using Microfluidic Evanescent-wave-based Flow Cytometry

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Supporting Information

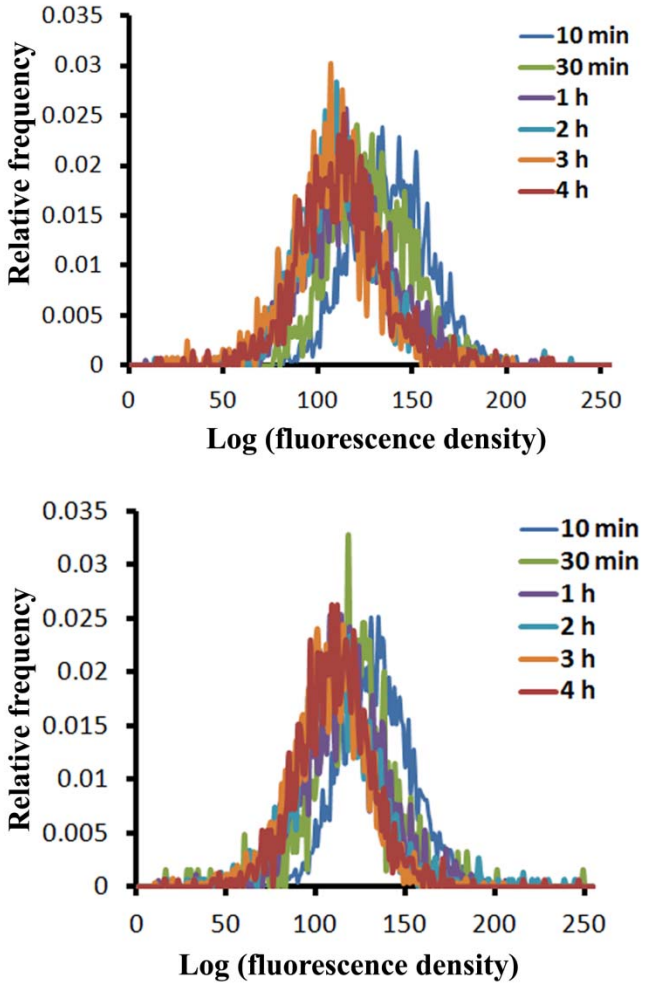

Figure S1. Two separate trials of TIRF-FC measurement of TAT-QD uptake in addition to the data series presented in Fig. 3a. The histogram series of the fluorescence density (fluorescence intensity divided by area) for the cell population were taken at various times (10 min to 4 h) after initial TAT-QD dosage of 10 min. Each histogram includes data from ~5000 cells.

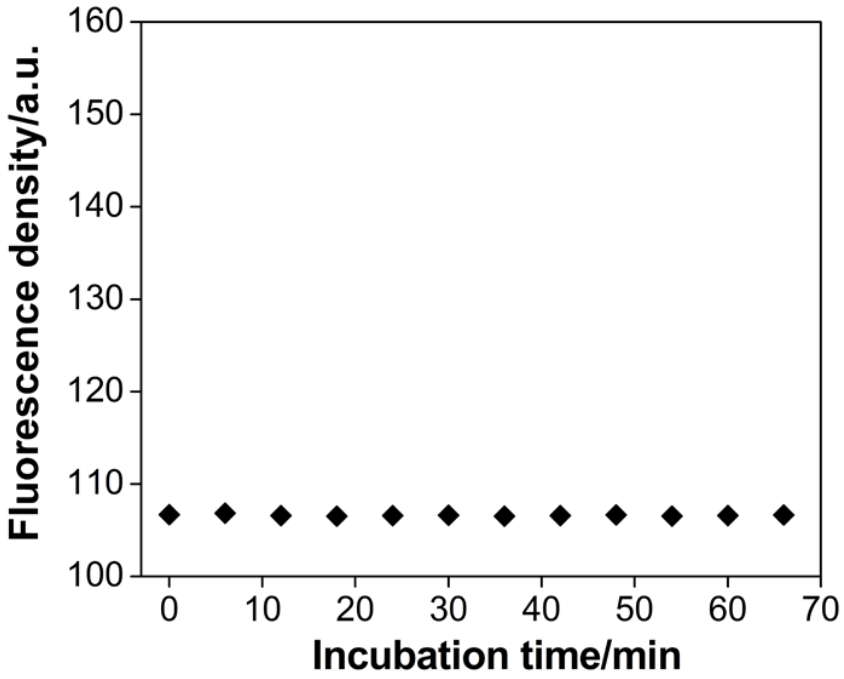

Figure S2. The fluorescence density of Tat-QDs that were irreversibly adsorbed on the glass surface is stable over time. The fluorescence density was measured under TIRF illumination using a CCD camera. The QDs were briefly exposed to 488 nm laser while taking each image. The fluorescence density values do not show systematic trend of declining over time and are in between 106. 85 and 106.51 during the 70-min period.

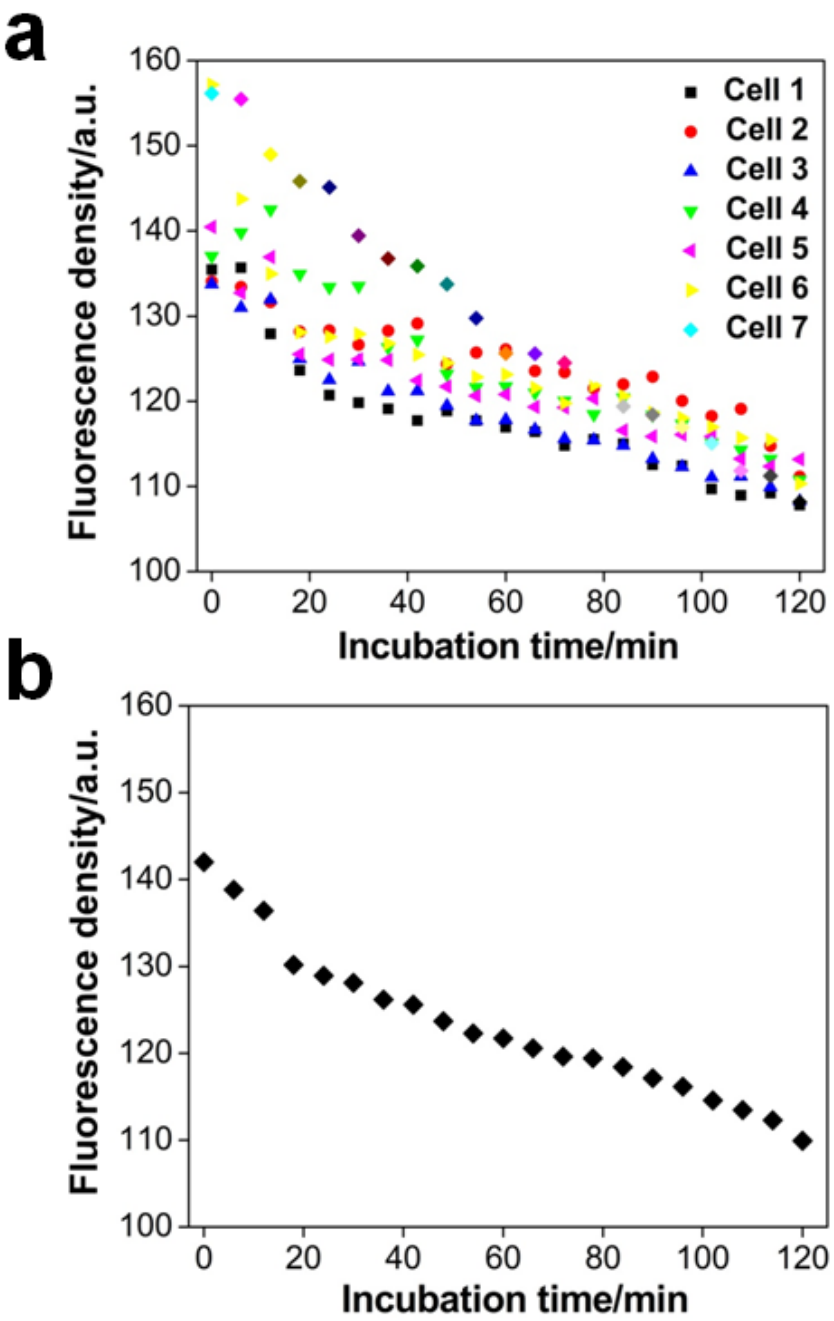

Figure S3. The fluorescence density on the cell surface measured by TIRFM imaging. (a) The variation of the fluorescence density of each cell (numbered in Fig. 5a) over time. (b) The average fluorescence density of the 7-cell population over time.

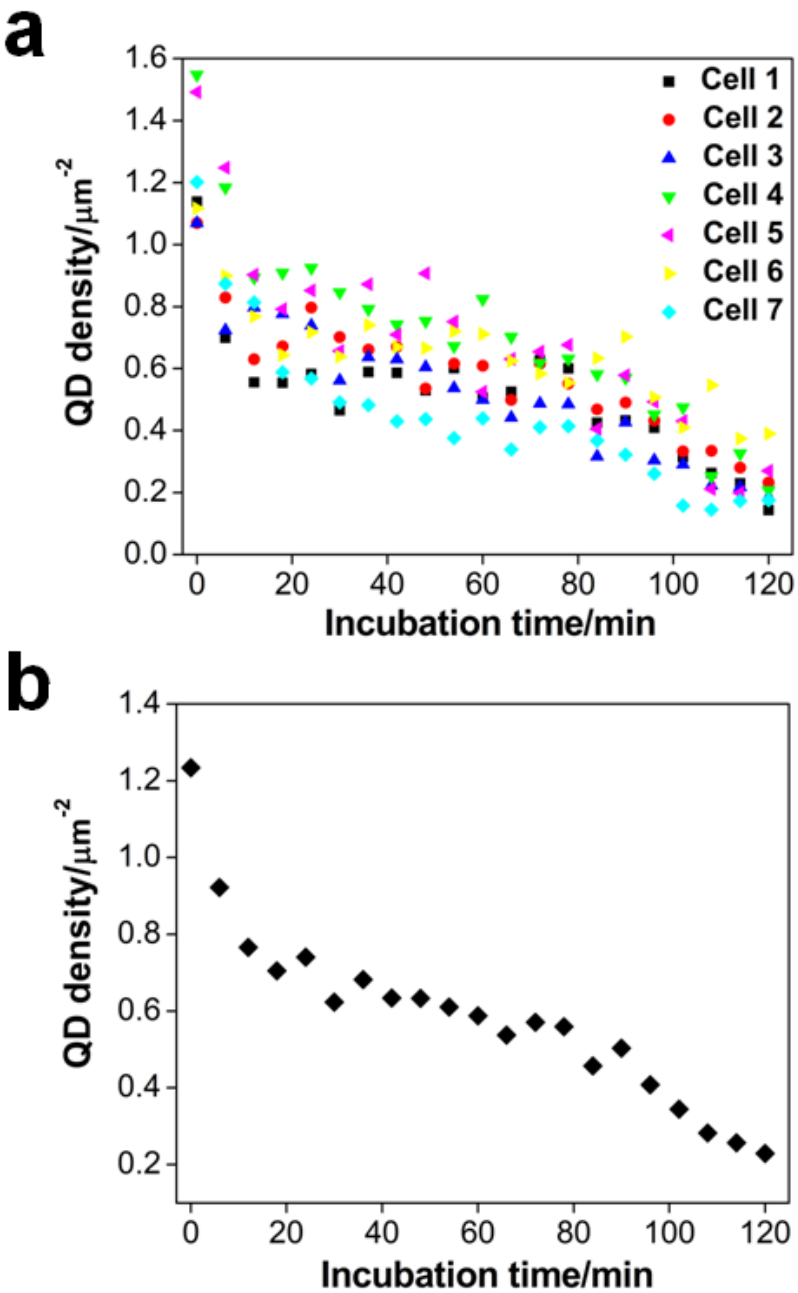

Figure S4. The variation of the QD density over time revealed by TIRFM imaging. (a) The variation of the QD density on each cell (numbered in Fig. 5a) over time. (b) The average QD density of the 7-cell population over time.