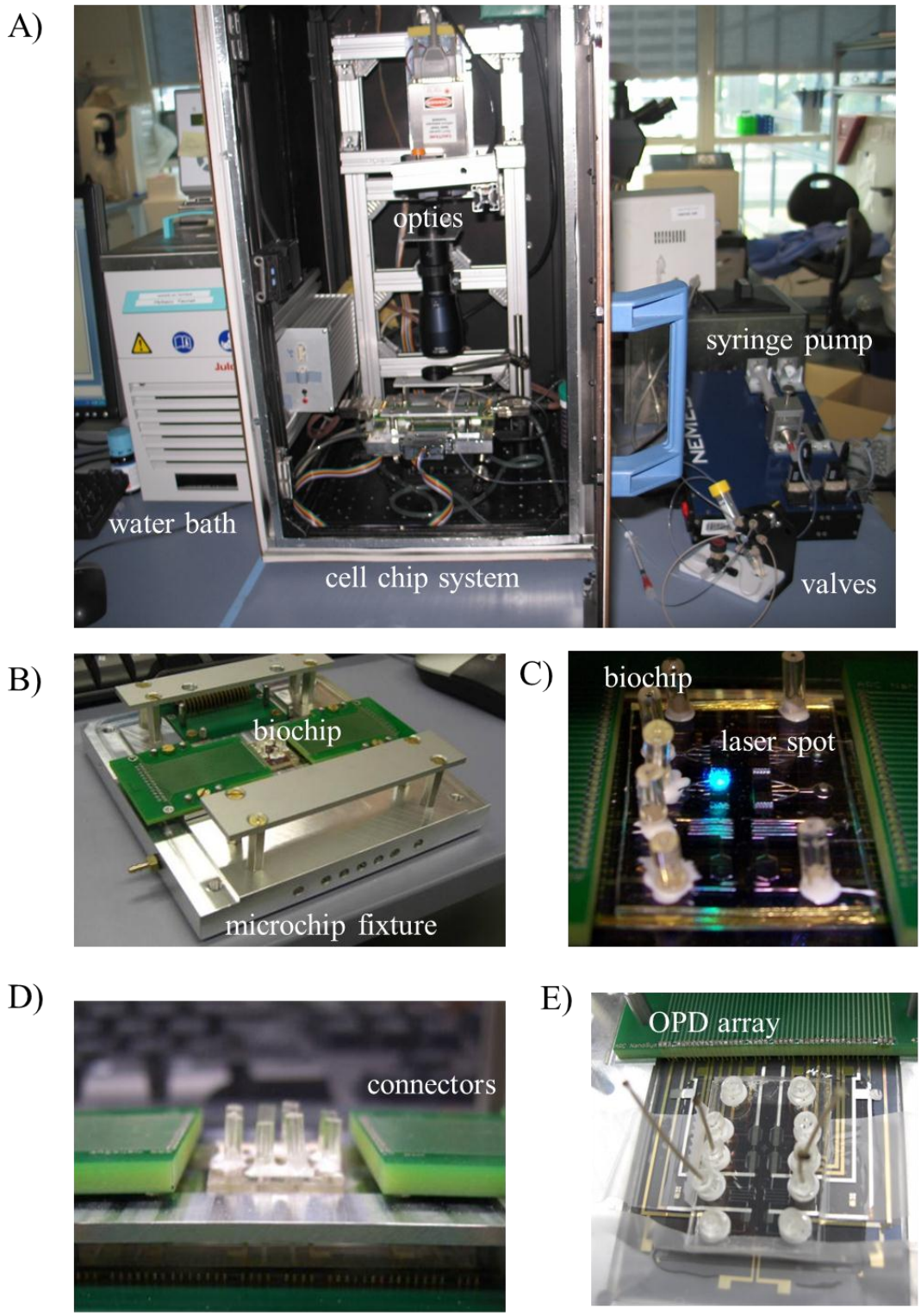
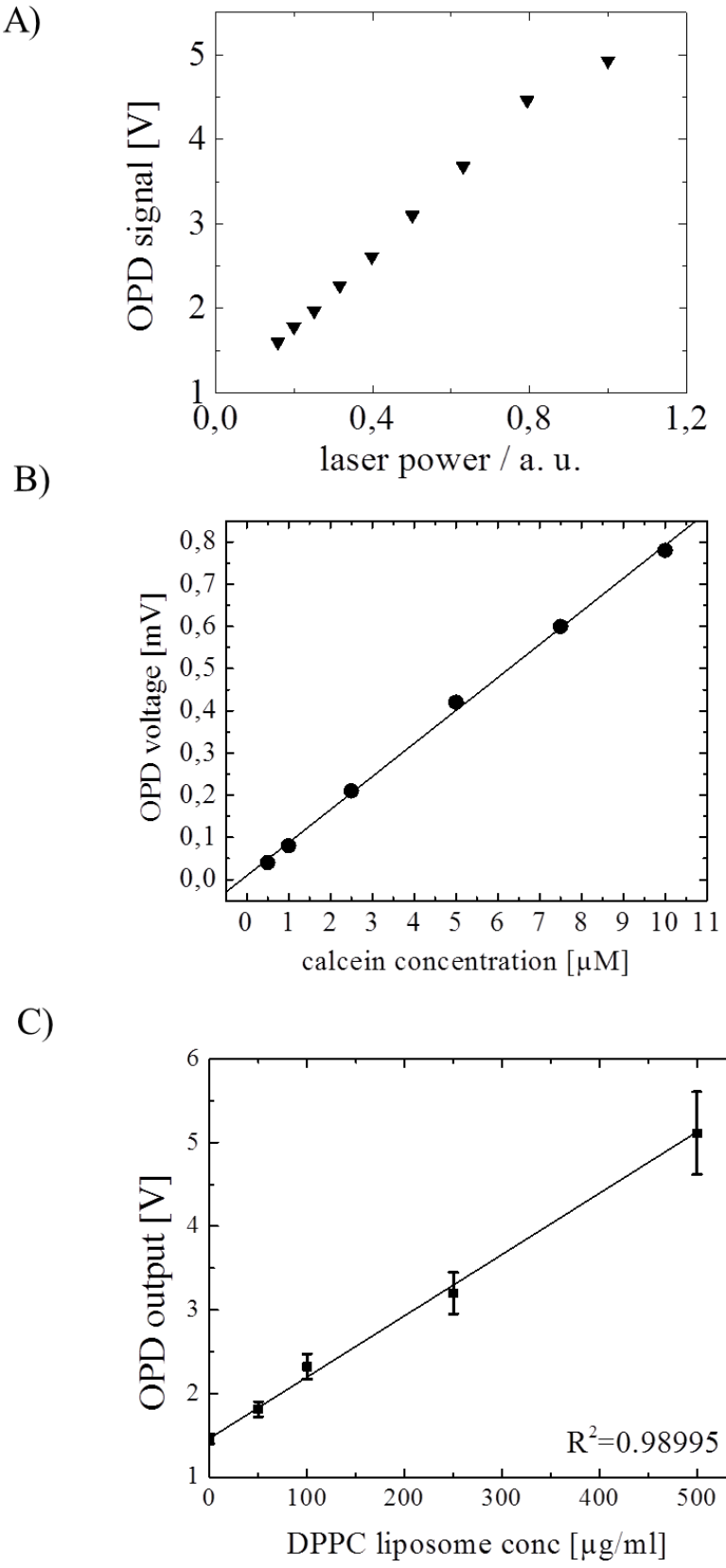
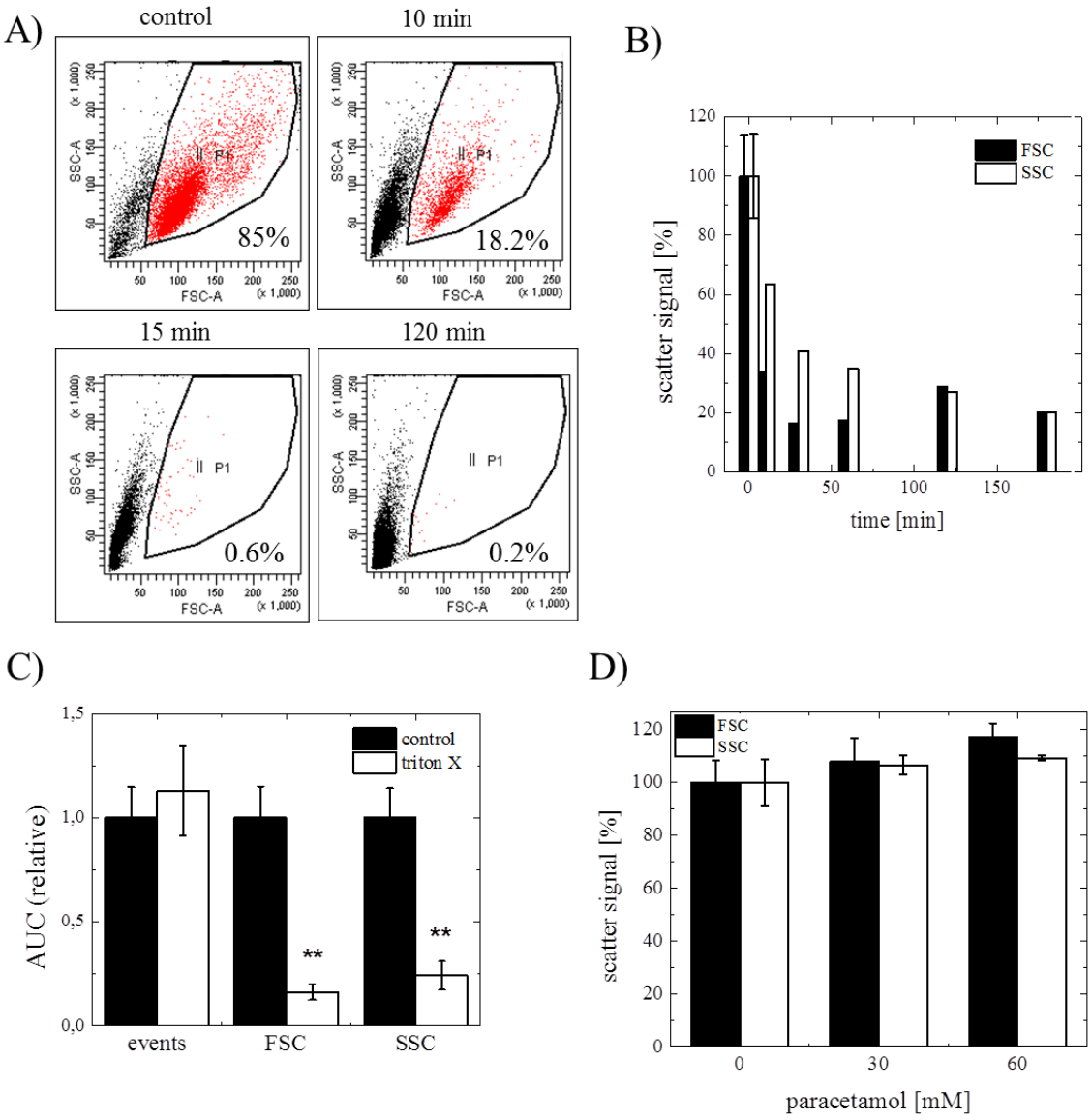


Suppl. Fig. 1 Pictures of the LOC set up and microfluidic biochip consisting of four integrated photodector and impedance detector arrays. A) Overview of the entire monitoring system including external heating and pumping stations, tubing, valves, laser source and optical equipment as well as the aluminum fixture including the electric connections and the cell chip. B) Cell Chip mounted in a water heated aluminum fixture and printed circuit boards. C) Laser beam positioned at one monitoring chamber. D) Side view of cell chip. E) top view of cell chip and OPD array.



Suppl. Fig. 2: A) OPD voltage output in the presence of increasing laser power. B) OPD array (design#1 of Fig.1b) signals for increasing concentrations of the fluorescence dye Calcein (0.5 – 10µM). C) Light scattering signals of increasing concentrations of liposomes (DPPC 200nm dia.)



Suppl. Fig. 3: Flow cytometric analysis of cell scatter behavior. A) Forward (FSC) and side (SSC) scatter dot plots of 0.2% Triton-X 100 treated DU-145 cells with increasing incubation times. Values indicate the percentage of events that fall into the gated population of intact cells. B) Decline in FSC (black) and SSC (white) signal of triton X treated DU-145 over time. The bar chart shows the geometric mean of all events (without gate). C) Area under the curve (AUC) of total events, FSC and SSC acquired within 1min from 0.2% triton X-100 treated DU-145 (10min exposure) and untreated control cells. D) Geometric mean of scatter values of NHDF incubated with increasing paracetamol concentrations overnight. B, C, D) Data normalized to control measurements. An asterix (*) represents a significant difference on the test niveau p=0.05; ** on the niveau p=0.01.