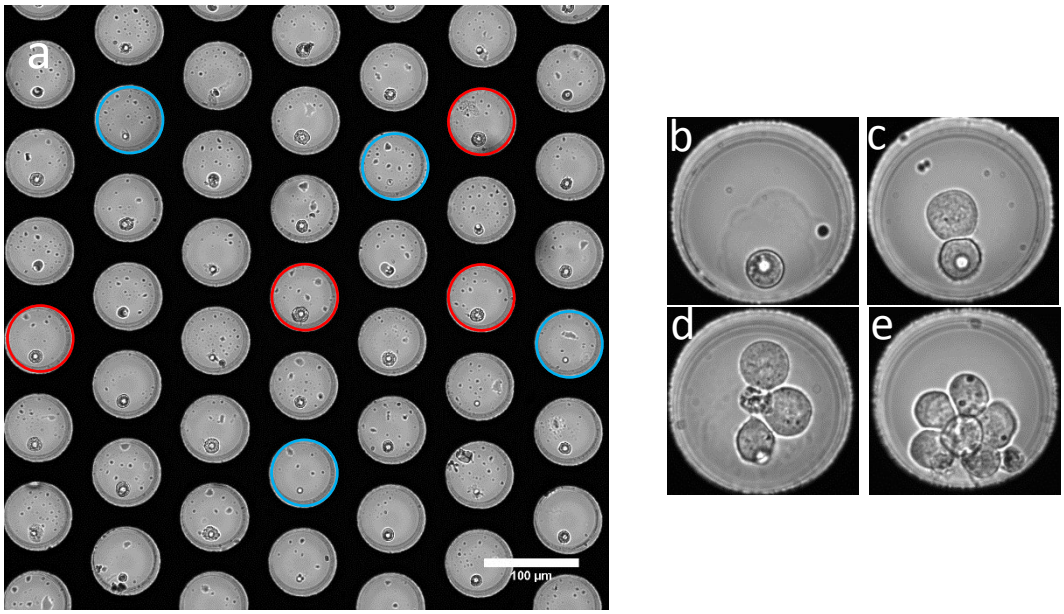
Electronic Supplementary Material (ESI) for Lab on a Chip.

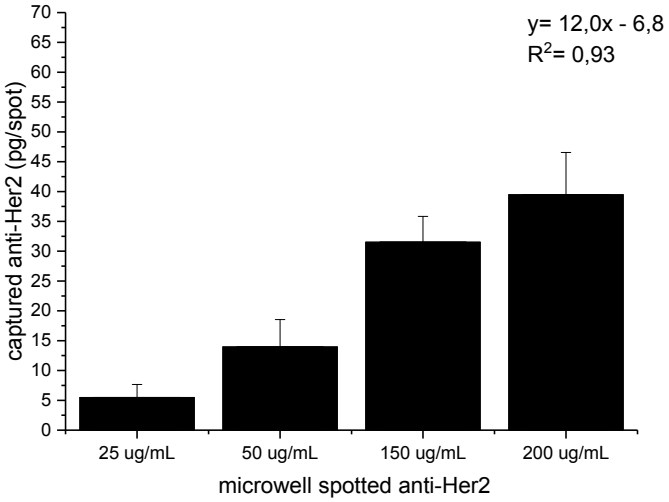
Supplementary Information

for

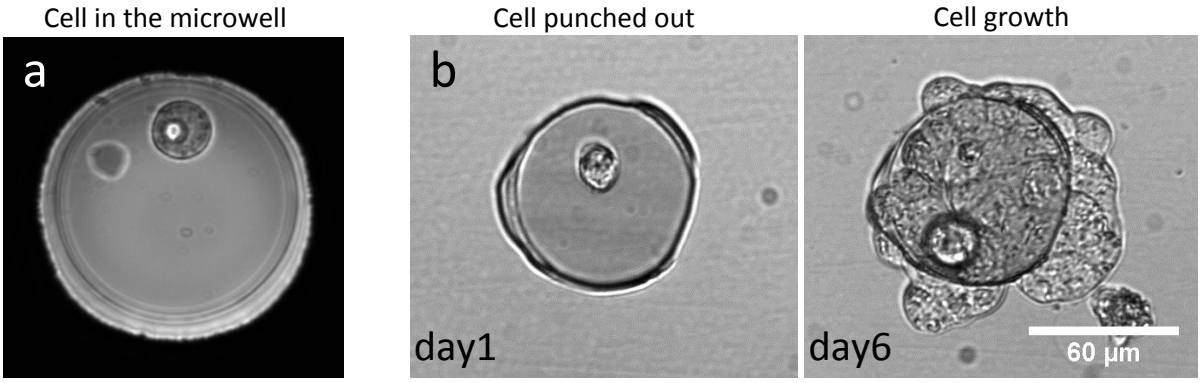
A microwell array platform to print and measure biomolecules produced by single cells



Supplementary Fig. 1: Cells in the microwells. (a) typical illustration showing single CHO cells in the microwells arrays imaged directly after sorting and after performing the assay (overnight) to captures cell secreted antibodies. Red circles indicate example wells with a single cell and blue circles empty wells. (b-e) Typical images showing different numbers of cells in the microwell. (b) shows a single cell, (c) 2 cells, (d) 3 cells and (e) 6 cells. To ensure monoclonality only those high producing cells which remain single during the measurement are selected and retrieved (punched) for clonal expansion. Size of the microwells is 70µm.



Supplementary Fig. 2: Printing of antibodies in an array. The microwells was used to determine the feasibility of printing antibodies in array format. Graph depicts a linear relation between different concentrations of added Herceptin antibody (µg/mL) as function of the amount printed with microwell (pg/spot), n=1,000.



Supplementary Fig. 3: Growth of a CHO cell punched from the a microwell. (A) Typical image of a cell in a microwell before punching out. (B) The glass bottom of the microwell with the cell is isolated from the well and retrieved in a micro-titer plate for culture (day1). The retrieved cell proliferates in a colony of cells after incubation for 6 days.