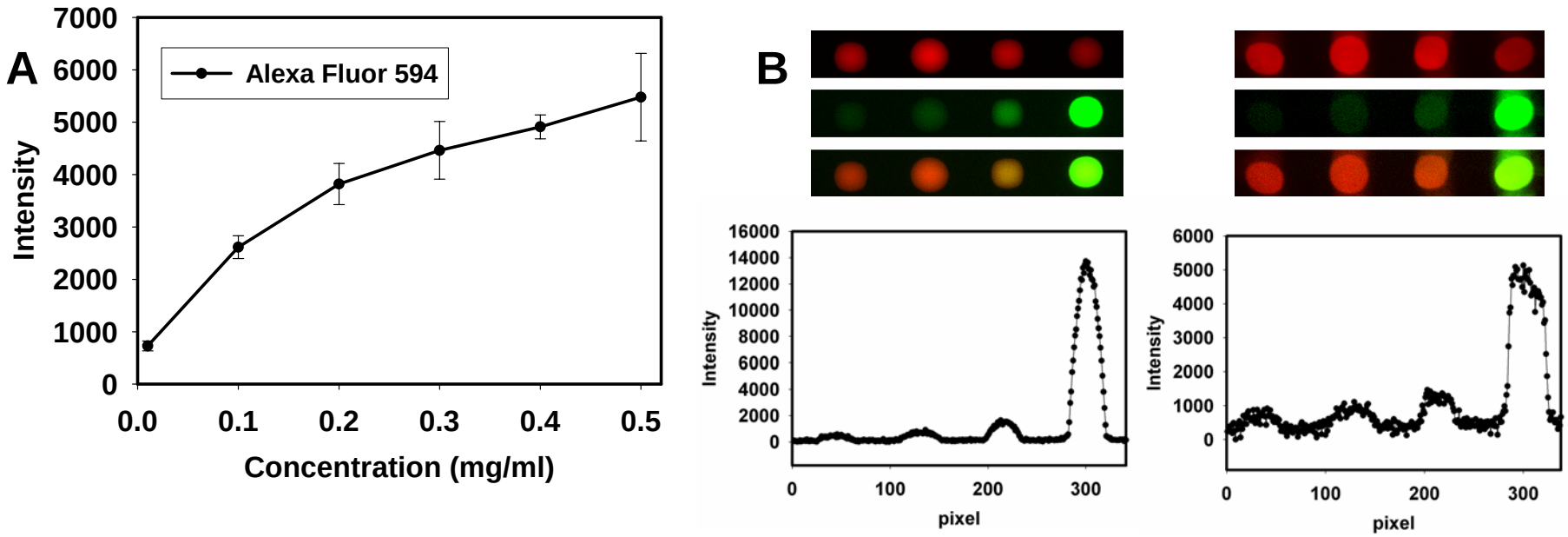
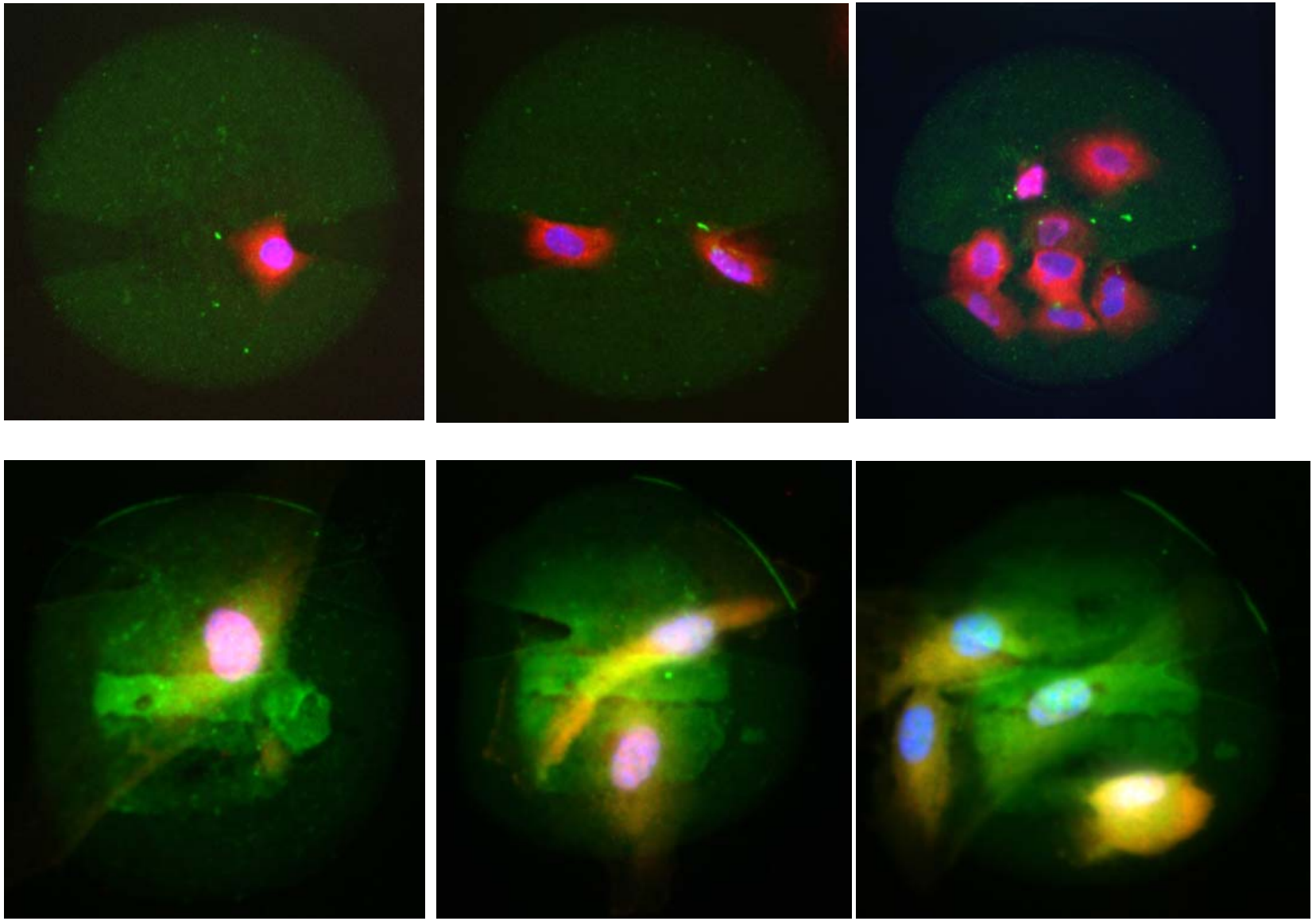
Supplementary Figure 1. Properties of the protein deposition onto the cell culture substratum. A: A range of concentrations of Alexa 594-conjugated secondary antibody were printed on NHS-derivatized glass slide. After being in contact with the surface for several hours and a wash, the intensity of fluorescence, which corresponds to protein concentration level on spots, was measured by a GenePix 4000B ; B: Printing of four different concentration of Alexa 488-conjugated secondary antibody (green): at 0.001; 0.01; 0.1; 1 mg/ml along with the same Alexa 594-conjugated secondary antibody (red) at the constant concentration of 1 mg/ml was performed to test the competition for available NHS-derivatized surface. The strips indicate the fluorescence of Alexa 488 only (upper), Alexa 594 only (middle) and both dyes (lower), prior (left panels) and following (right panels) a wash. The results for Alexa 488 fluorescence intensity are quantified in the graphs.

Supplementary Figure 2. Difference cell types tested using the system combining dielectrophoresis-assisted microfluidics with protein micro-arraying for cell signaling studies (top panel: A549 Cells, bottom panel: iHUVECs).

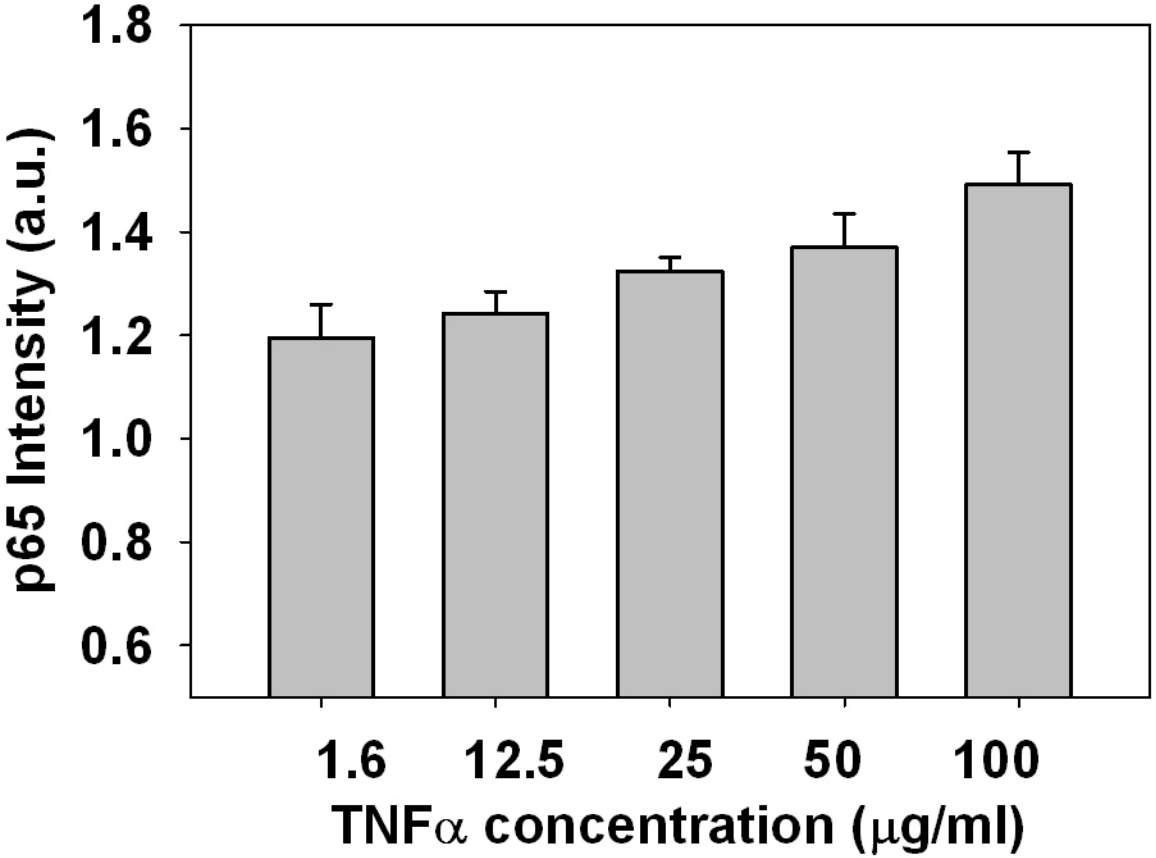
Supplementary Figure 3. iHUVECs' gradual response to increasing concentration of immobilized TNFα.


A
Alexa Fluor 594
Intensity
Concentration (mg/ml)
7000
6000
5000
4000
3000
2000
1000
0
0.0
0.1
0.2
0.3
0.4
0.5
B
Intensity
pixel
16000
14000
12000
10000
8000
6000
4000
2000
0
0
100
200
300

Suppl. Fig.1



Suppl. Fig.2


1.8
1.6
1.4
1.2
1.0
0.8
0.6
p65 Intensity (a.u.)
1.6
12.5
25
50
100
TNFα concentration (μg/ml)

Suppl. Fig.3