Supplementary Data

1. Cyclic voltammetric studies

Supp. Fig 1 a to e shows the CV spectra after each modification for different size electrodes on same scale. Change in current for each electrode after each step indicates the successful modification and binding of anti-EpCAM.





Suppl Fig. 1 CVs of (i) bare (ii) with mixed SAM, (iii) with anti-EpCAM and (iv) with cells for (a) 25 μ m, (b) 50 μ m, (c) 100 μ m, (d) 250 μ m and (e) 500 μ m diameter electrodes, respectively.

2. Impedimetric studies

Supp. Fig 2 shows the impedance spectra for MCF-7 cell loading effect on 100 μ m diameter electrode. It is clear from the figure that with increasing coverage of electrode with cells results in increase of impedance. Data of this graph has been used for creating figure 7a of main text. Supp. Fig 3 (a) to (f) indicates the effect of single cell and 100% coverage on the impedance spectra for different size electrodes. Data of these spectra was used for creating Fig 7 (b) in main text.



Supp. Fig 2 impedance spectra for MCF-7 cell loading effect on 100 µm diameter electrode





Supp. Fig 3 (a) to (f) effect of single cell and 100% coverage on the impedance spectra for different size electrodes.