Supplementary Material (ESI) for PCCP


# Effects of electrode surface modification with chlorotoxin on patterning single glioma cells

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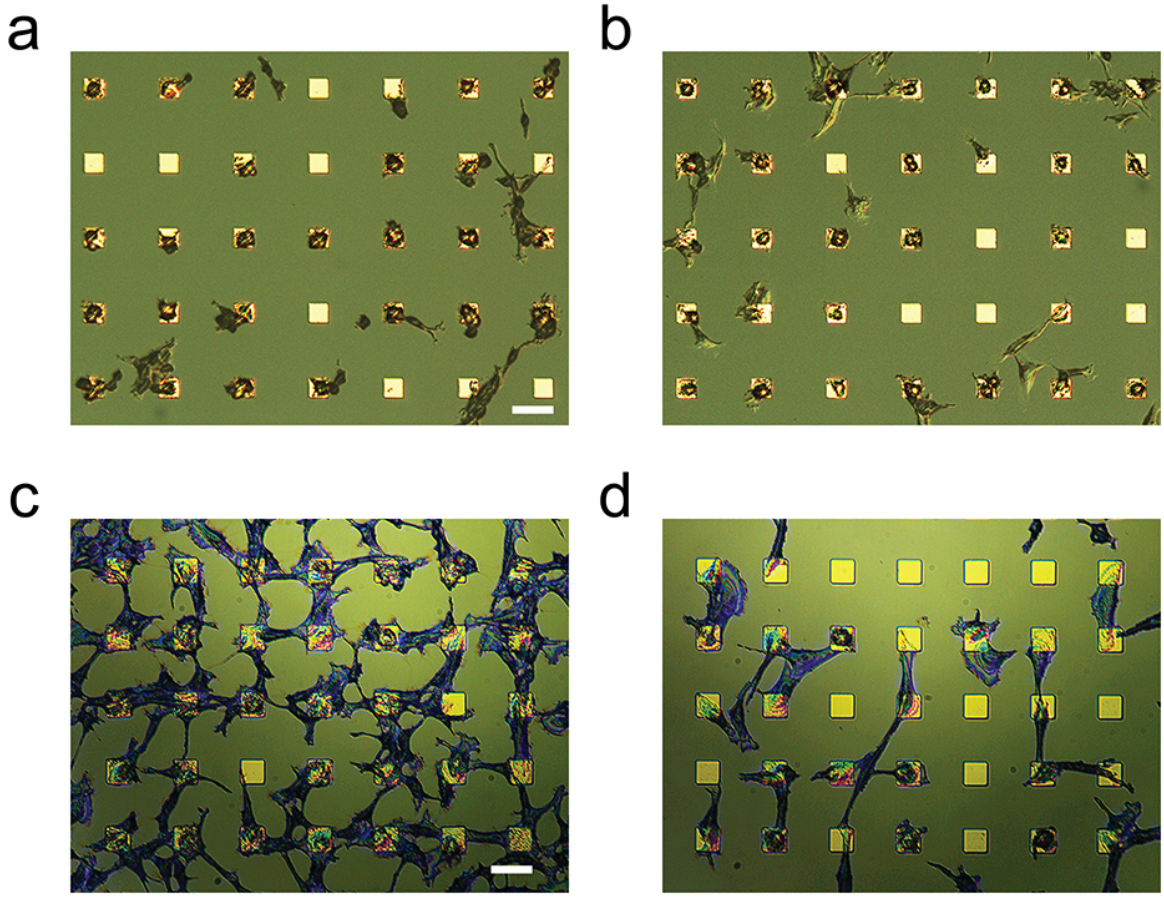


**Supplemental Figure 1.** Optical DIC micrographs of 9L cells patterned on 20 µm gold electrodes modified with (a) physically adsorbed chitosan and covalently-bound (b) fibronectin, (c) poly-L-lysine, and (d) RGD using NHS intermediary chemistry. The scale bar is 40 µm.

*Surface modification of gold microelectrodes using common adhesion ligands*

Gold microelectrode arrays were chemically modified with adhesion ligands chitosan, fibronectin, poly-L-lysine, and RGD in a manner similar to those modified with CTX as described in the manuscript. After removal of the protective photoresist layer and surface cleaning, the gold electrodes were functionalized with the 11-MUA SAM and the silicon oxide background of the substrate was passivated with PEG. Medium molecular-weight chitosan was immobilized onto electrodes through physical adsorption at a concentration of 100 µg/mL in 8.2

pH PBS at room temperature for 1 hr. Substrates were modified with fibronectin, poly-L-lysine, and RGD using the covalent bonding scheme as that of Cov1 CTX chemical modification. Specifically, the substrates were submerged in an aqueous solution of 150 mM EDAC and 30 mM NHS for 30 min and subsequently rinsed. The substrates were then exposed to a solution of fibronectin, poly-L-lysine, or RGD at a concentration of 100 μg/mL in 8.2 pH PBS buffer at room temperature for 1 hr. Finally, all modified substrates were rinsed in PBS and DI water, respectively, to remove loosely bound moieties.