Unveiling LOX-1 receptor interplay with nanotopography: mechanotransduction and atherosclerosis onset

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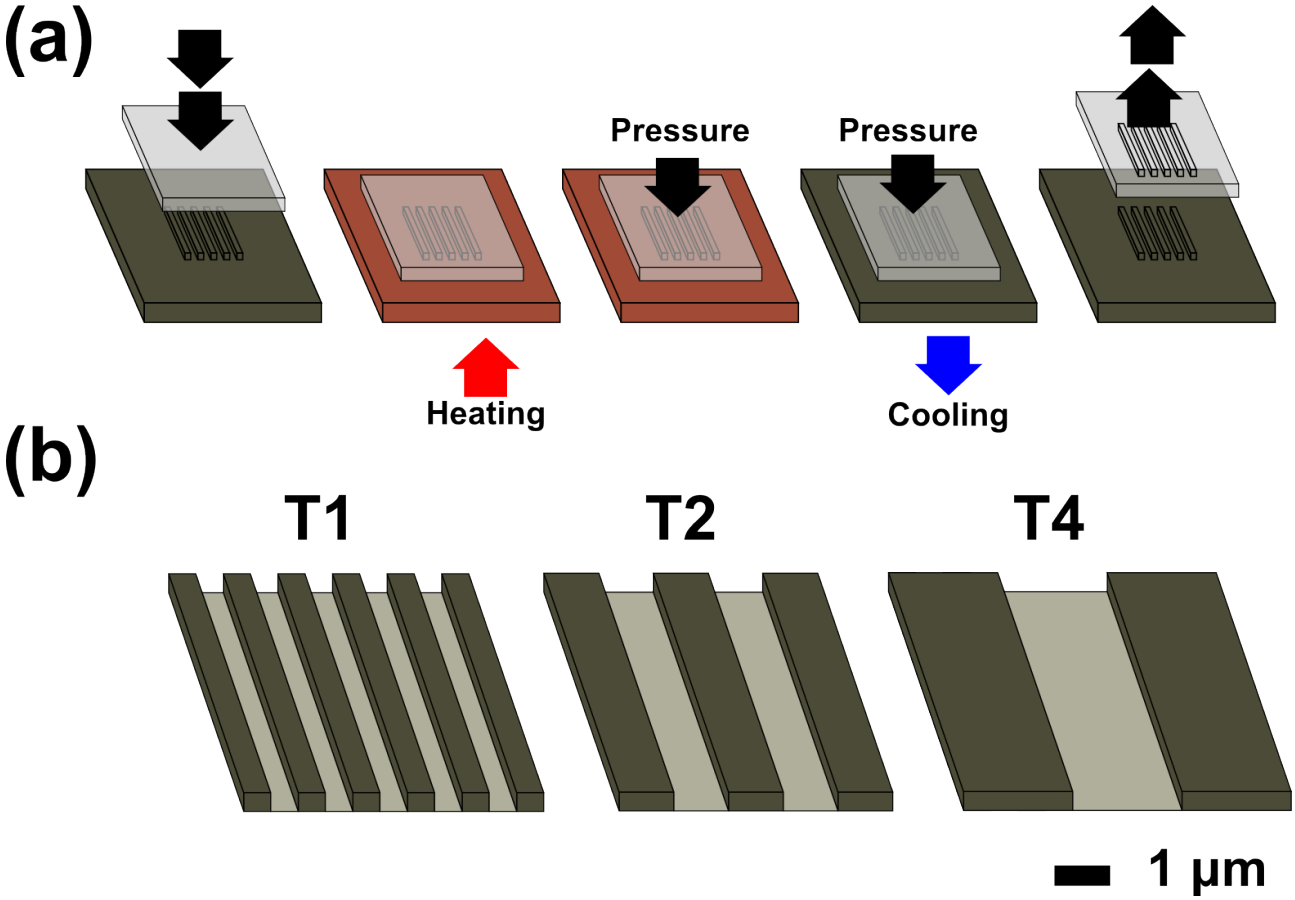
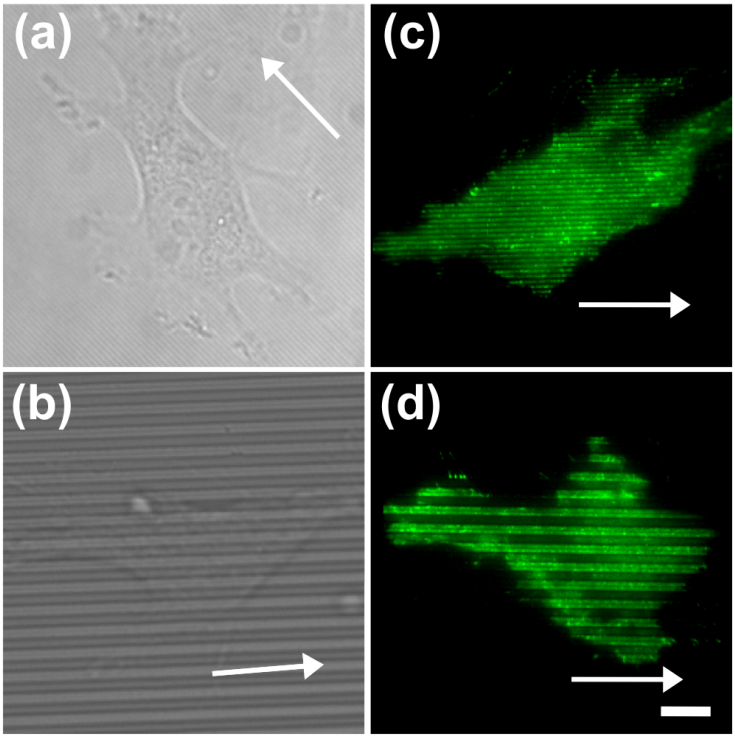
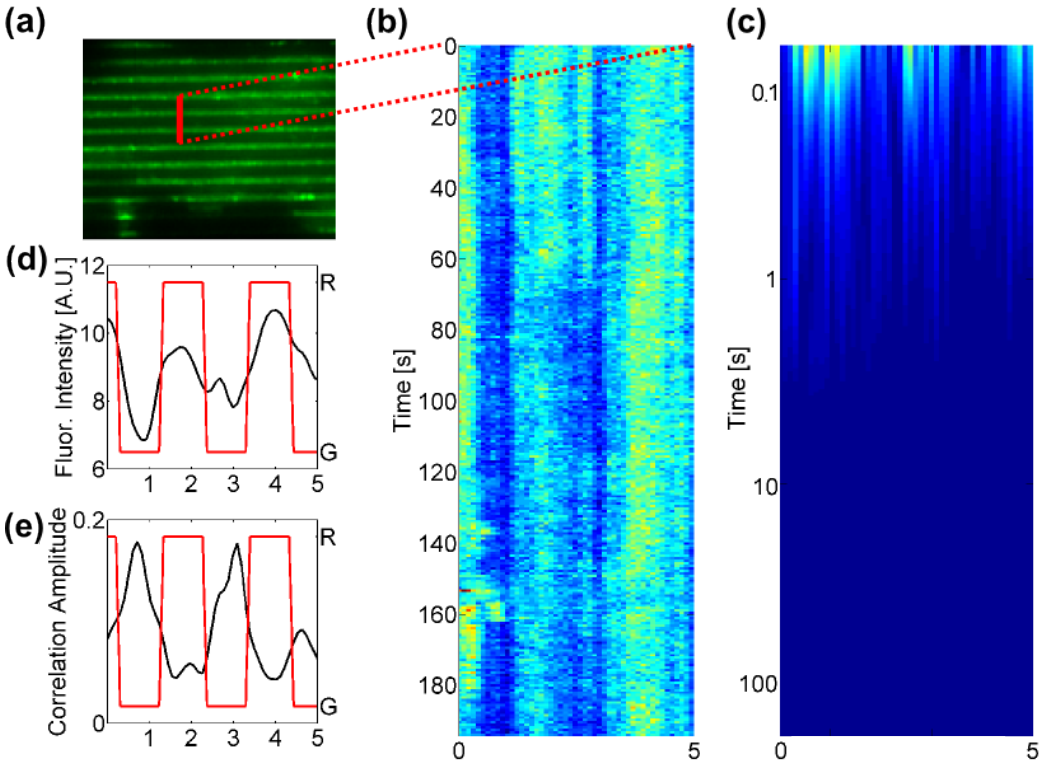


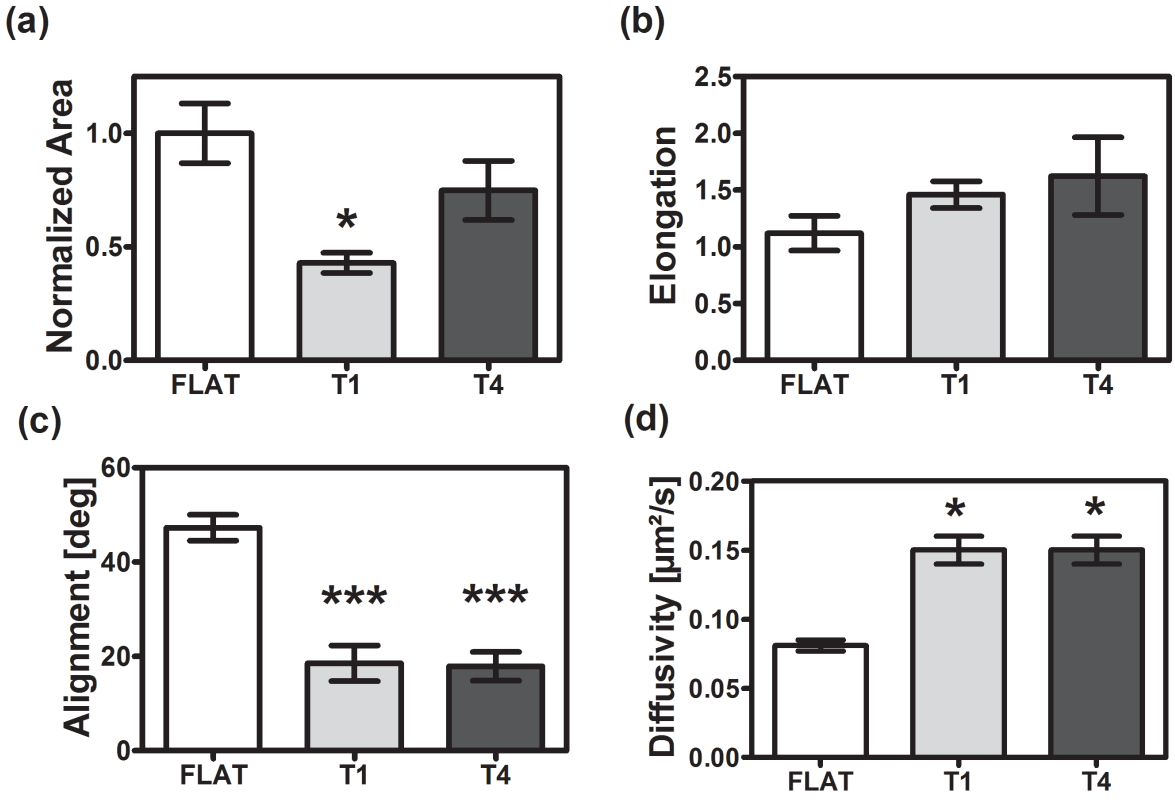
Suppl. Fig. 1: *Nanograting fabrication*. (a) Schematics of the imprinting process. (b) Scheme of the nanogratings produced.



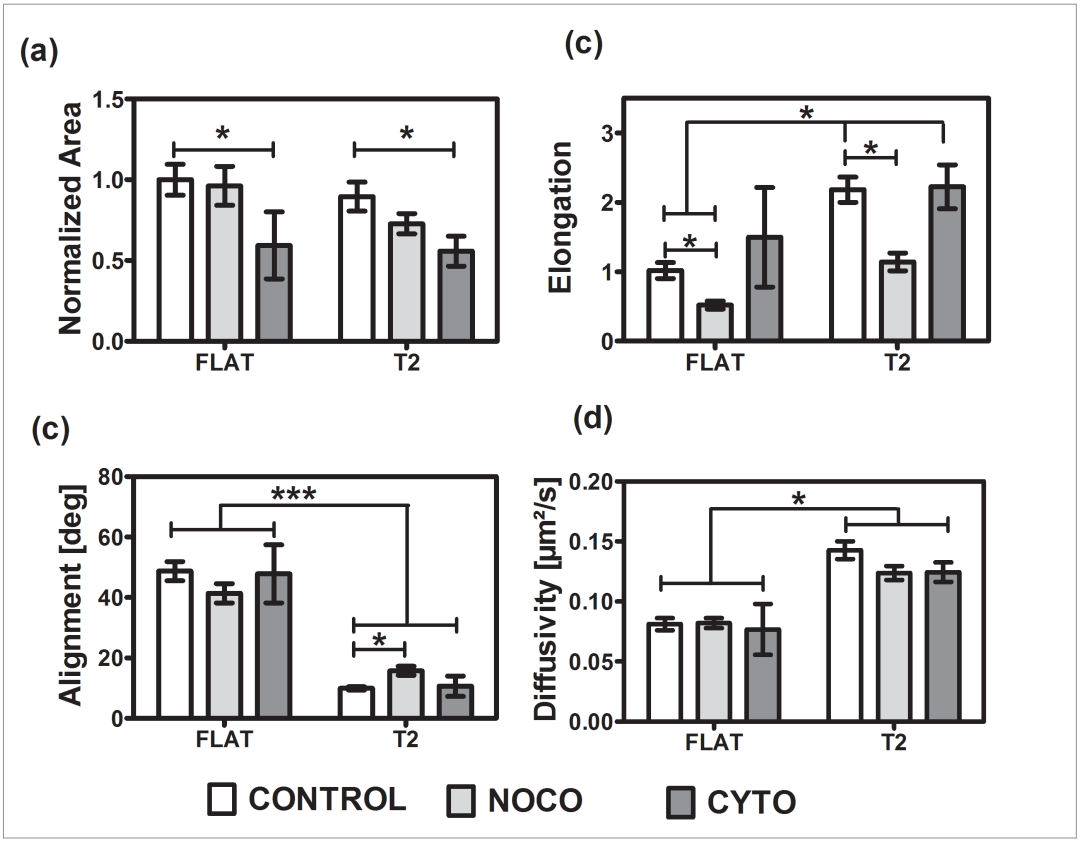
Suppl. Fig. 2: *Morphology and LOX-1-GFP localization in HUVECs on nanogratings*. Representative bright field images of HUVECs adhered on (a) T1 and (b) T4. Representative TIRFM images of LOX-1-GFP transfected HUVECs on (c) T1 and (d) T4. Scale bar 10 μm. White arrows indicate substrate directionality.



Suppl. Fig. 3: *LOX-1 distribution in HUVECs on nanostructured surfaces.* A line scanning acquisition is performed selecting a line on a fluorescence image of the plasma membrane (a). Acquisition is saved as a carpet (b) where the x-axis represents the spatial position and the y-axis represents the time. Then, each column of the carpet is autocorrelated to obtain an autocorrelation carpet (c). (d) Mean fluorescence intensity along the acquired line compared to the ridge position. (d) Correlation amplitude along acquired line compared to the ridge position.



Suppl. Fig. 4: *HUVEC morphology and LOX-1 diffusivity*. Histograms report cell adhesion area (a), elongation (b), alignment (c) and the LOX-1 diffusivity (d) as a function of the substrate topography. Data are reported as mean ± standard error for $n \geq 3$ experiments. 174 is the number of analyzed cells. Significant differences between the population means are reported.



Suppl. Fig. 5: *Effect of nocodazole and cytochalasin-D on HUVEC morphology and LOX-1 diffusivity on* ***FLAT*** *and* ***T2*** *substrates.* Histograms report cell adhesion area (a), elongation (b), alignment (c) and LOX-1 diffusivity (d) with or without drugs treatments. Data are reported as mean ± standard error of n ≥ 3 experiments. 338 is the number of analyzed cells. Significant differences between the population means are reported.