

Figure S1. SDS-PAGE for native and ApA/Aln-modified and RBITC-labelled CNCs. The RBITC was included as a reference for free-dye migration track.

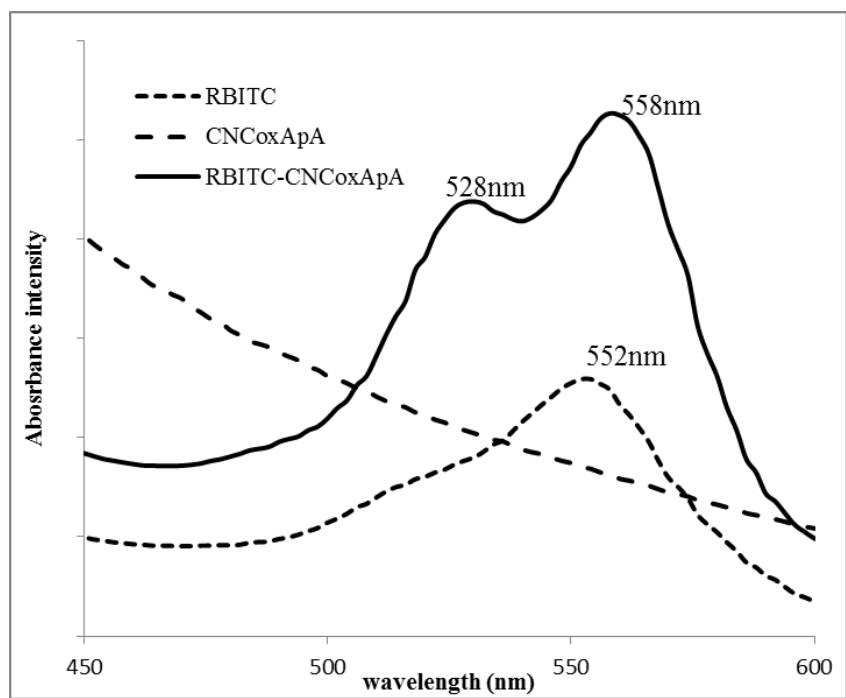
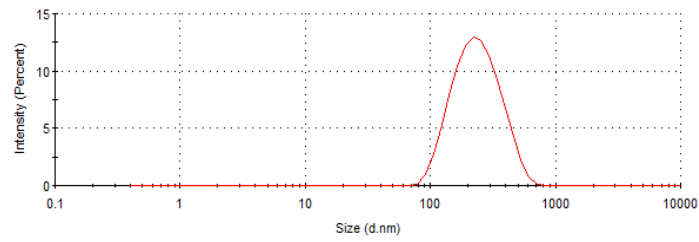
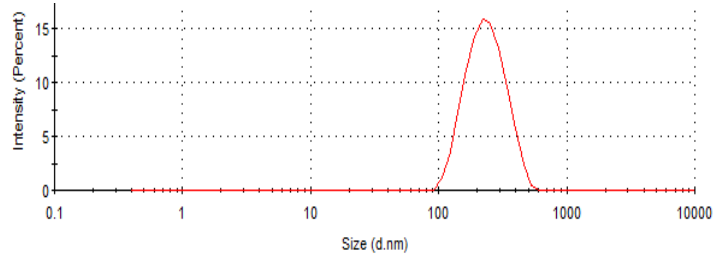


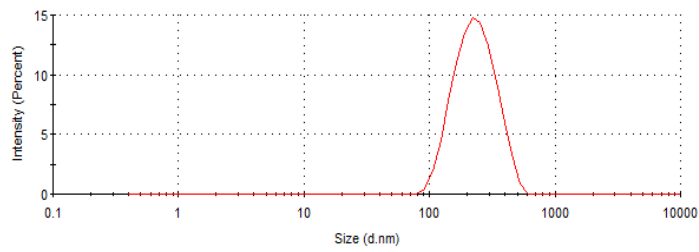
Figure S2. UV-VIS absorbance spectra of native RBITC, ApA-modified (CNCoxApA) and RBITC-labelled (RBITC-CNCoxApA) CNCs.



a)

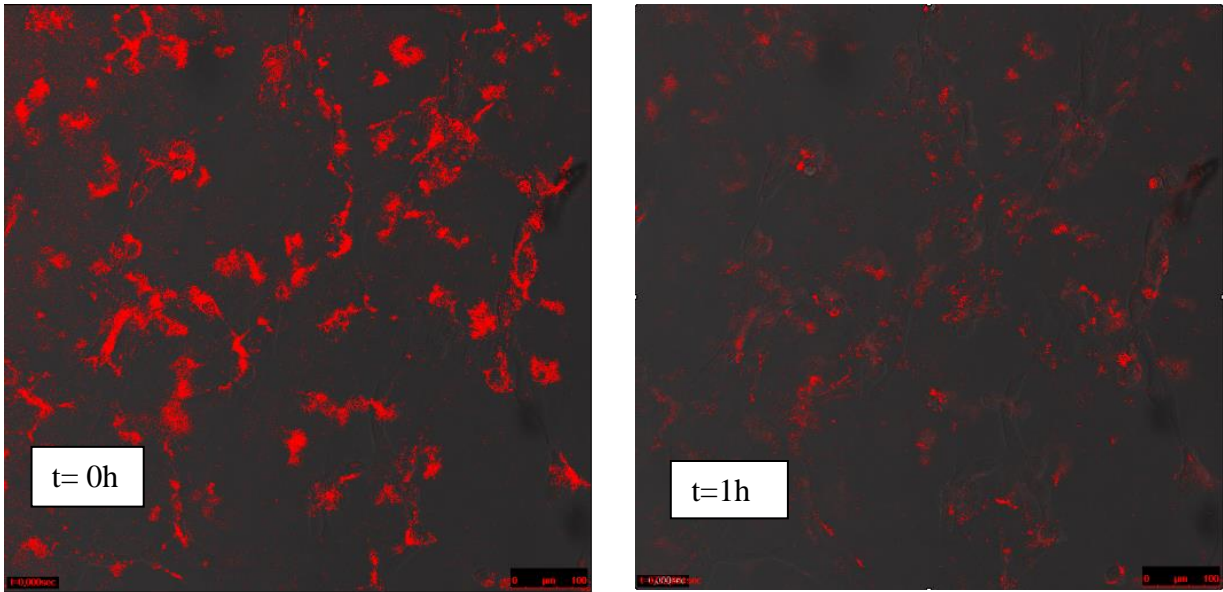


b)

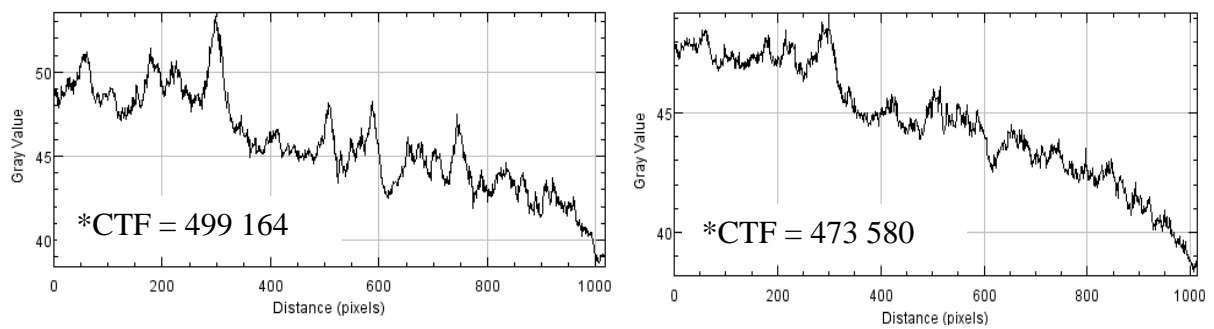


c)

Figure S3. DLS data for size distribution by intensity of a) native, b) oxidised (CNCox) and c) ApA-modified (CNCoxApa) CNCs, being presented by intensity measurement.



a)



b)

*Calculated total fluorescence (CTF) = Integrated Density – (Image Area x Mean fluorescence of background readings).

Figure S4. a) Micrographs from confocal fluorescent microscopy, being taken at beginning ($t= 0$) and after 1 h of incubation ($t=1$) for native CNC with osteoblasts. For comparison, same z-stack position is used in both images, obtained from red (fluorescent) channel (without visible cells). **b)** The plot profiles (for all image area, excluding the scale bar) of fluorescence intensity (y-axis) are presented below for the respective images.