Published in "Biomacromolecules 16(4): 1267–1275, 2015"
which should be cited to refer to this work.

Supporting information

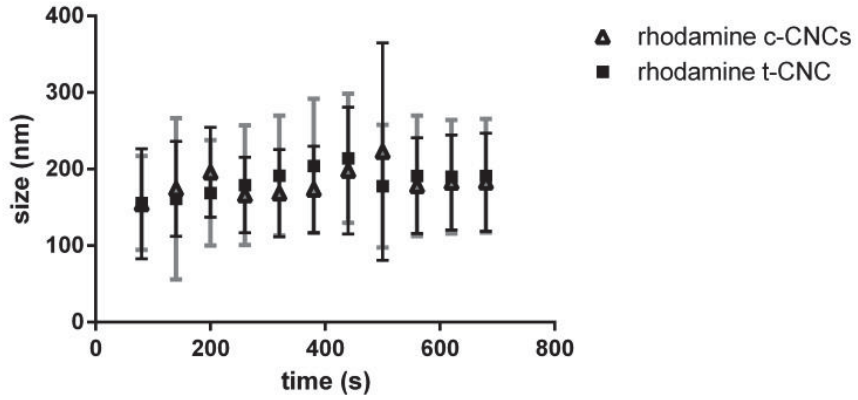

Figure S1 Colloidal stability of rhodamine-CNC dispersions prepared by sonication in aqueous suspensions monitored by mean size analysis *via* single particle tracking over time. Triangles represent rhodamine-c-CNCs, squares rhodamine-t-CNCs.

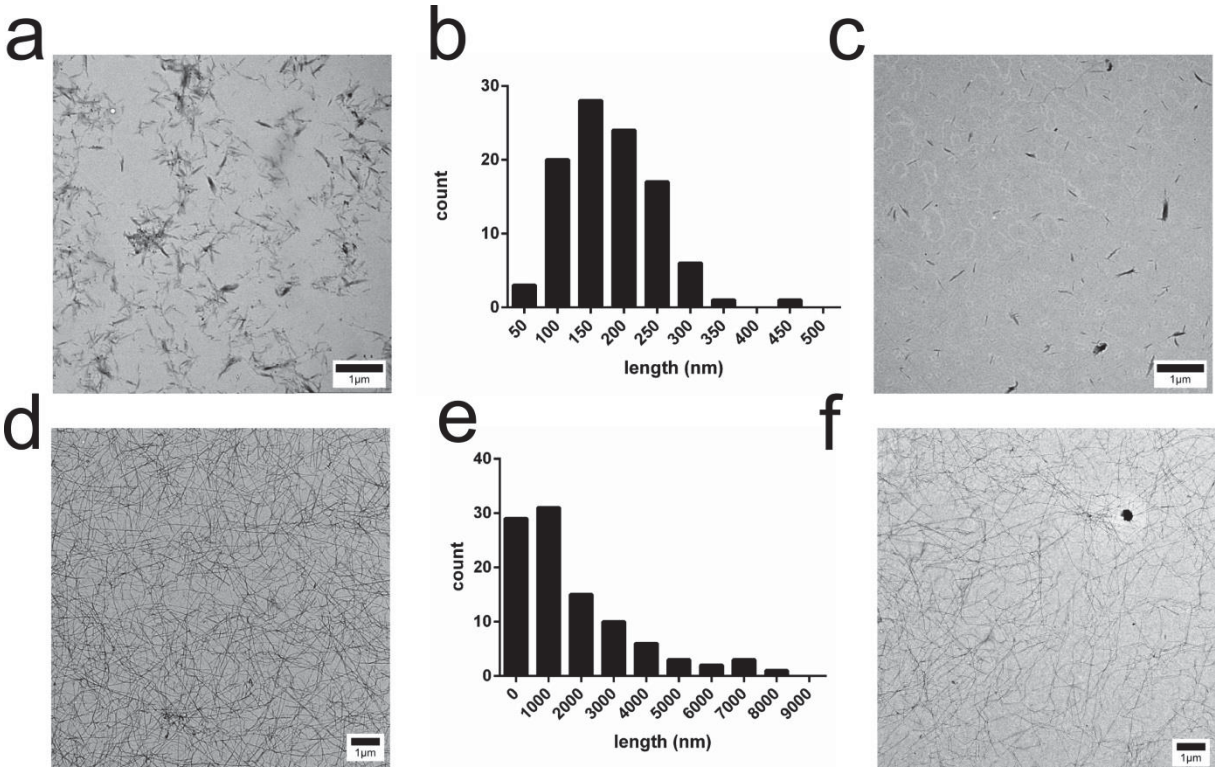

Figure S2 TEM images of rhodamine-labeled CNCs nebulized with the ALICE system. Shown are TEM grids onto which 0.56±0.25 µg/cm^2 (a) and 0.14±0.06 µg/cm^2 (c) of rhodamine-c-CNCs or 0.67±0.09 µg/cm^2 (d) and 0.13±0.04 µg/cm^2 (f) of rhodamine-t-CNCs has been deposited. Histograms b (c-CNCs) and e (t-CNCs) show the length distribution after nebulization from 100 individual measurements. Scale bars represent 1 µm.

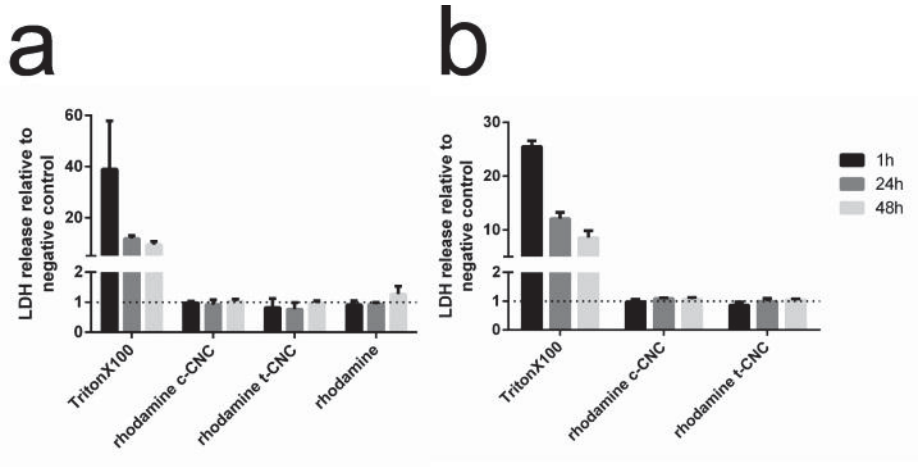

Figure S3 LDH release measured from triple-cell co-cultures exposed to (**a**) ~0.62 µg/cm² or (**b**) ~0.14 µg/cm² rhodamine-CNCs. Results are presented relative to the negative control. TritonX_{100} served as positive control.

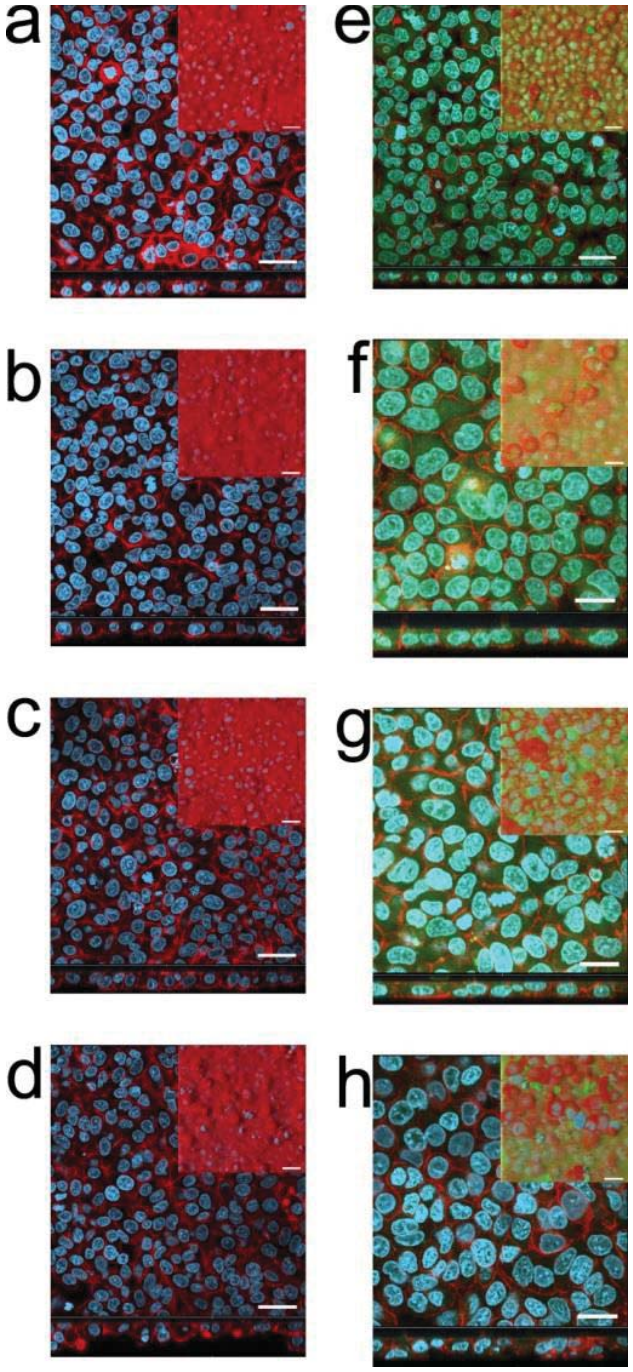

Figure S4 Confocal laser scanning microscopy images of triple-cell co-culture model exposed to the negative control (NaCl) *via* the ALICE system. Co-cultures were either exposed to 500 µM NaCl only (**a-d**) or 100 µM rhodamine solution (**e-h**). Cells were immediately fixed (**a, e**) or after 1 (**b, f**), 24 (**c, g**) or 48 h (**d, h**) post-exposure and stained for cytoskeleton (red) and nuclei (cyan). Images are presented as surface rendering (insets) and xy/yz-projection of the z-stacks. Scale bar = 30 µm.