

Supplementary Information

Superhydrophobic Surfaces allow X-ray Scattering Probing of Exosomes self organization

Angelo Accardo, Luca Tirinato, Davide Altamura, Teresa Sibillano, Cinzia Giannini, Christian Riekkel, Enzo Di Fabrizio

SEM Images of the Exosomes residuals

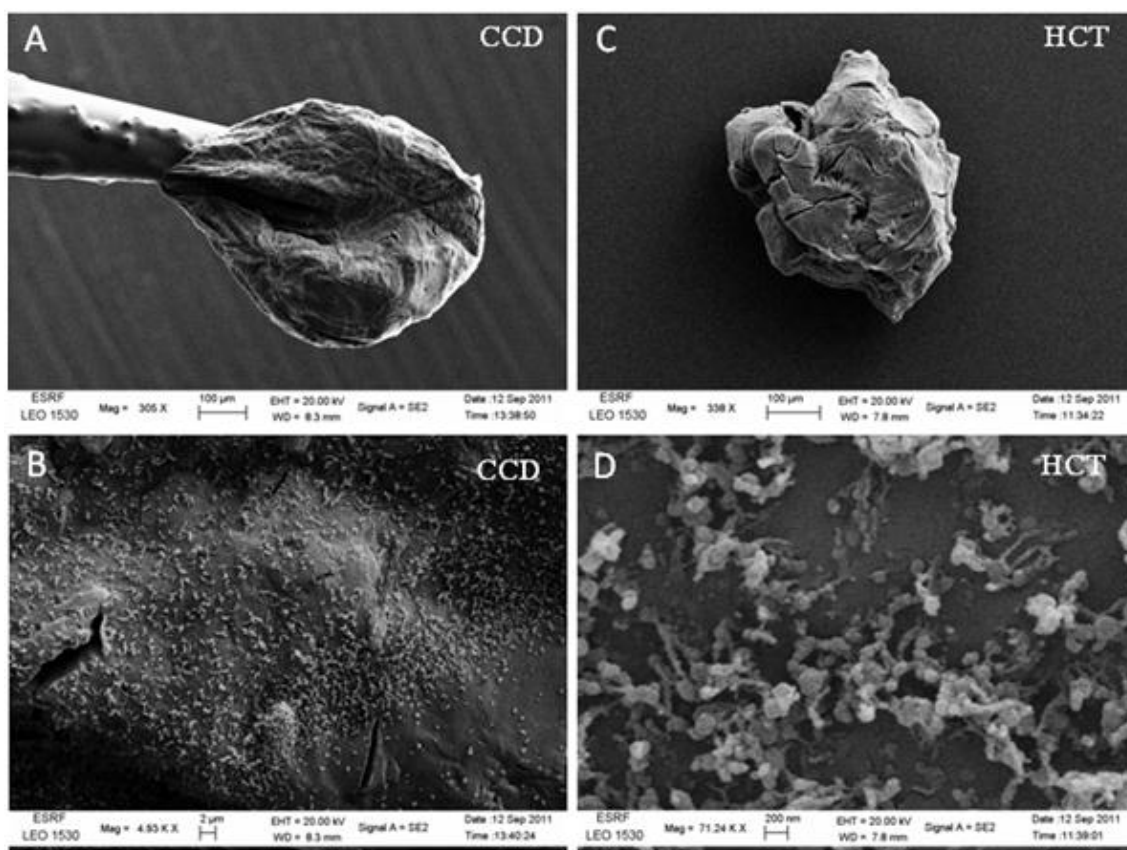


Figure S1 A,B: SEM images of exosome residue from the CCD841-CoN cell line attached to a glass capillary tip; C,D: SEM images of exosome residue from the HCT116 colon cell line

SR microWAXS experiments

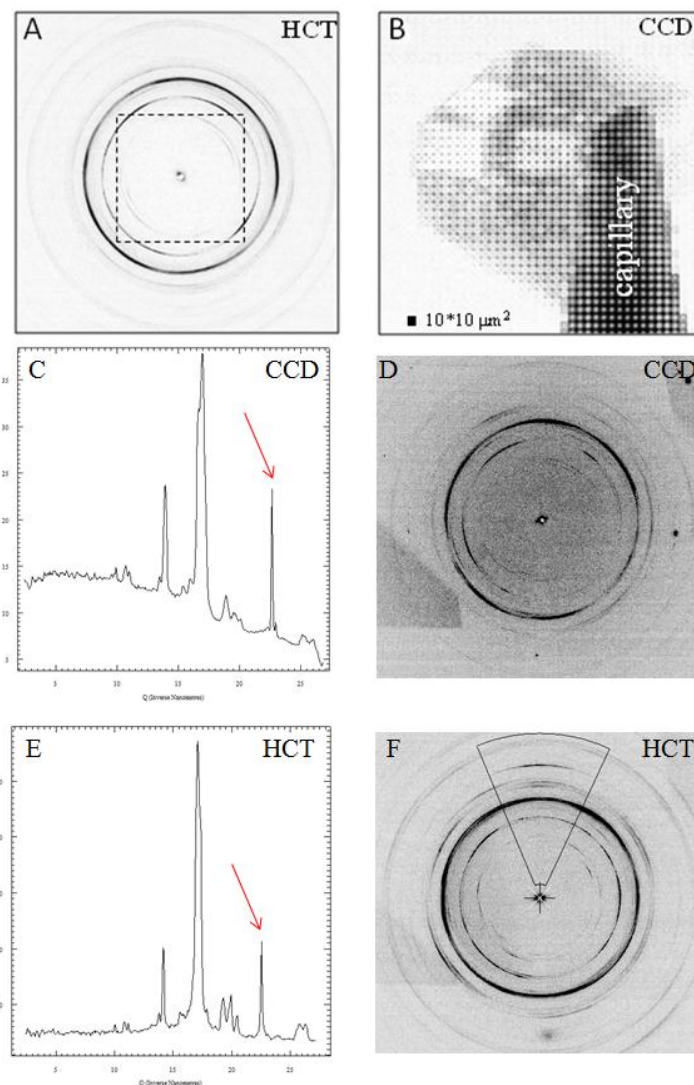


Figure S2 A: HCT microWAXS pattern; B: Composite Diffraction Image for CCD residue. Each pixel contains the area defined by a square in Fig.S2A; C-F: azimuthally averaged plots and related selected microWAXS patterns of CCD and HCT exosomes showing the peak at 22.5 nm^{-1} detected at the XMI Lab.

A composite diffraction image¹ based on a raster-diffraction scan with $10 \mu\text{m}$ step increment across the CCD-residue is shown in Figure S2B. The individual pixels correspond to diffraction patterns which are limited to the area defined by the square in Figure S2A. The raster-diffraction image allows discerning the shape of the glass capillary from the residue (Figure S2B). The residue shows inhomogeneities due to different thicknesses which the X-ray microbeam probes.

Figures S2C-F show the presence of the peak at 22.5 nm^{-1} in selected HCT and CCD patterns collected at the ID13 beamline with the $1 \mu\text{m}$ beam. The same peak was detected by the analysis of the same residuals at the XMI Lab with the $200 \mu\text{m}$ beam.

Synchrotron Radiation Experiments

The distances were calibrated by diffraction patterns from corundum and Ag behenate powder speckles.²

References

- (1) Riekell, C.; Burghammer, M.; Davies, R.; Gebhardt, R.; Popov, D. In *Applications of Synchrotron Light to Scattering and Diffraction in Materials*; Ezquerro, T. A., Garcia-Gutierrez, M., Nogales, A., Gomez, M., Eds.; Springer: Heidelberg, 2009; Vol. 776, p 91.
- (2) Blanton, T. N.; Huang, T. C.; Toraya, H.; Hubbard, C. R.; Robie, S. B.; Louer, D.; Goebel, H. E.; Will, G.; Gilles, R.; Raftery, T. *Power Diffraction* **1995**, *10*, 91.