

Supplementary

ZrO₂ nanoparticles labeled *via* a native protein corona: detection by fluorescence microscopy and Raman microspectroscopy in rat lung

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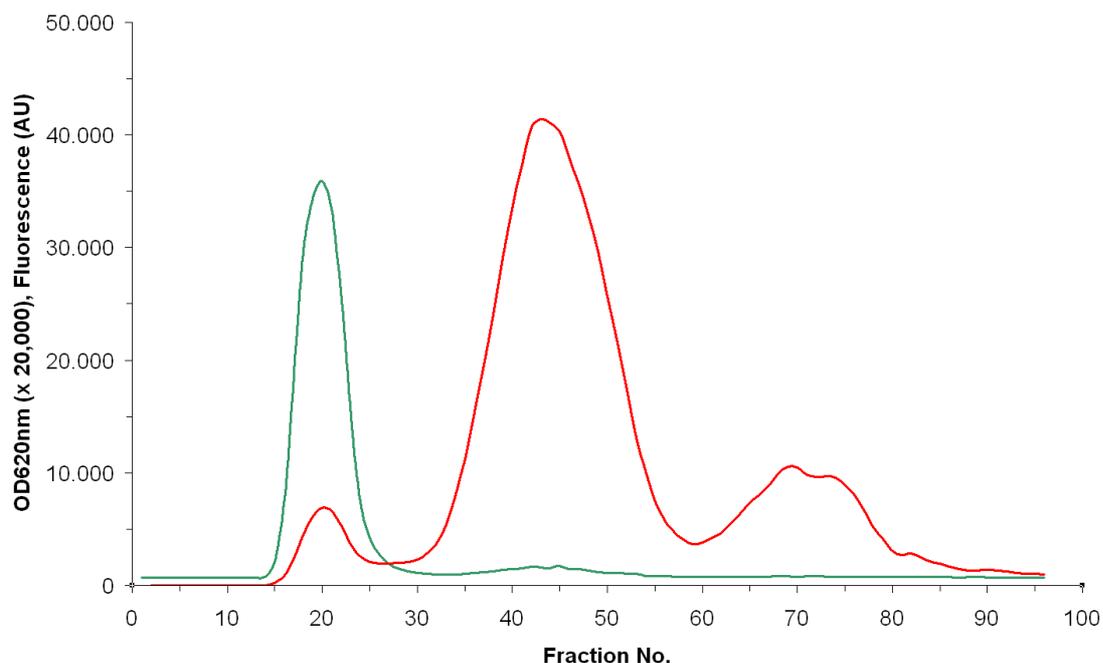


Figure S-1: Purification of ZrO_2 NP after adsorption labeling with rat serum proteins and binding of TxR. Elution profile of a Sepharose CL6B column (9.5 x 2 cm). NP (green curve) represents the first peak (Fraction no. 15-25), which co-elutes with bound TxR (red curve). TxR bound to proteins (Fractions >25) and free TxR (Fractions >60) eluted as a second and third peak, respectively.

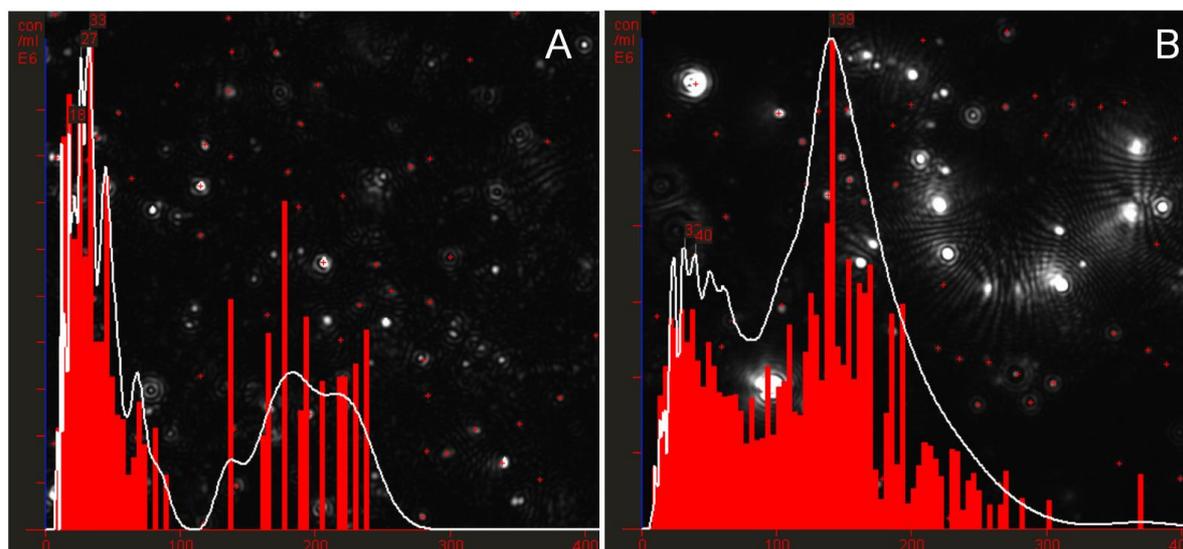


Figure S-2: NanoSight measurement of ZrO_2 NP in dH_2O (A) and after labeling and column purification, as used for intratracheal instillation (B). Histograms are shown in front of typical video images showing light scattering ZrO_2 nanoparticles.

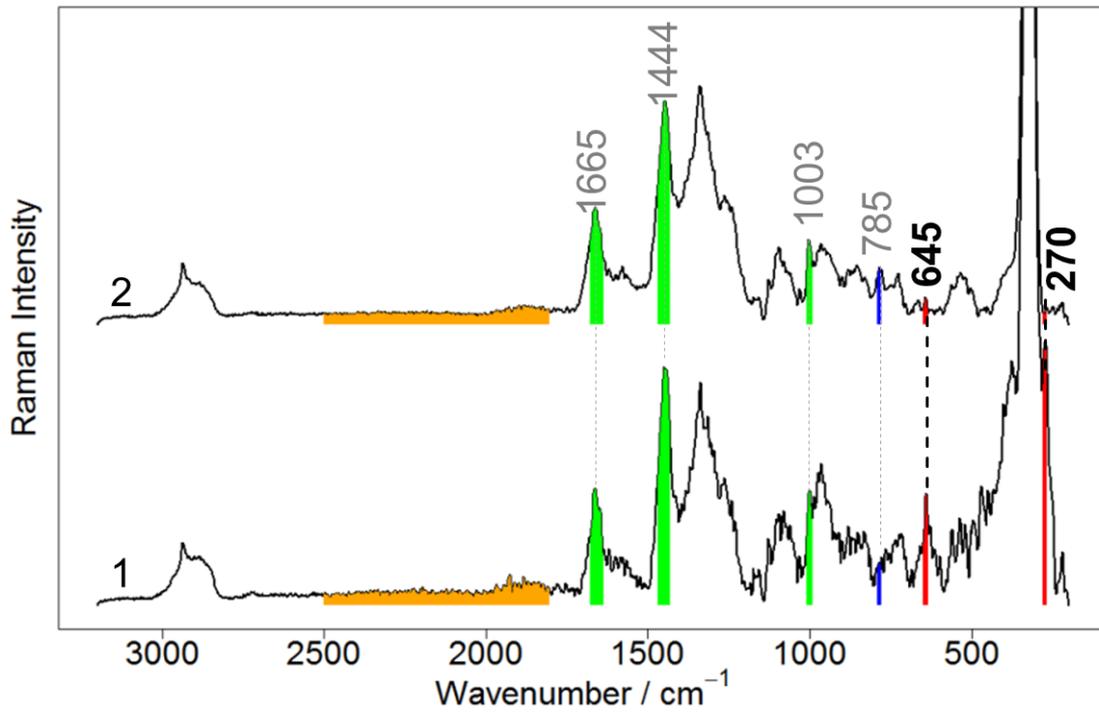


Fig. S-3: Wavenumber regions: sum of defined Raman marker band intensities are indicated by their respective color codes. Wavenumber region used for the calculation of the noise contribution is highlighted in orange. Spectrum 1 exhibits tissue and ZrO₂ signals higher than the defined thresholds. Spectrum 2 exhibits no ZrO₂ signals but tissue and nucleic acid contributions equal or higher than the respective thresholds.

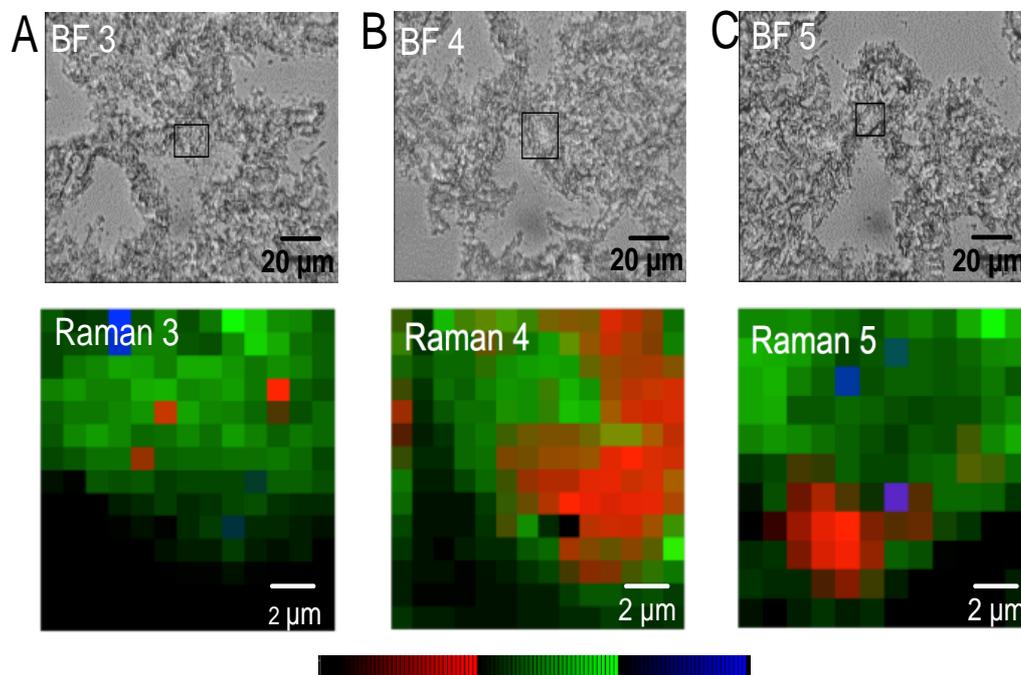


Fig.S-4: Bright field pictures of fluorescent positions 3-5 of Fig. 5A respectively with the indication of the mapped areas (black frames). The corresponding Raman RGB false color images are plotted below.