Supporting Information

Significant Accumulation of Polymyxin in Single Renal Tubular Cells: A Medicinal Chemistry and Triple Correlative Microscopy Approach

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Figure S1: Fluorescence spectra illustrating the concentration-dependent enhancement of fluorescence emission of FADDI-096 in water.

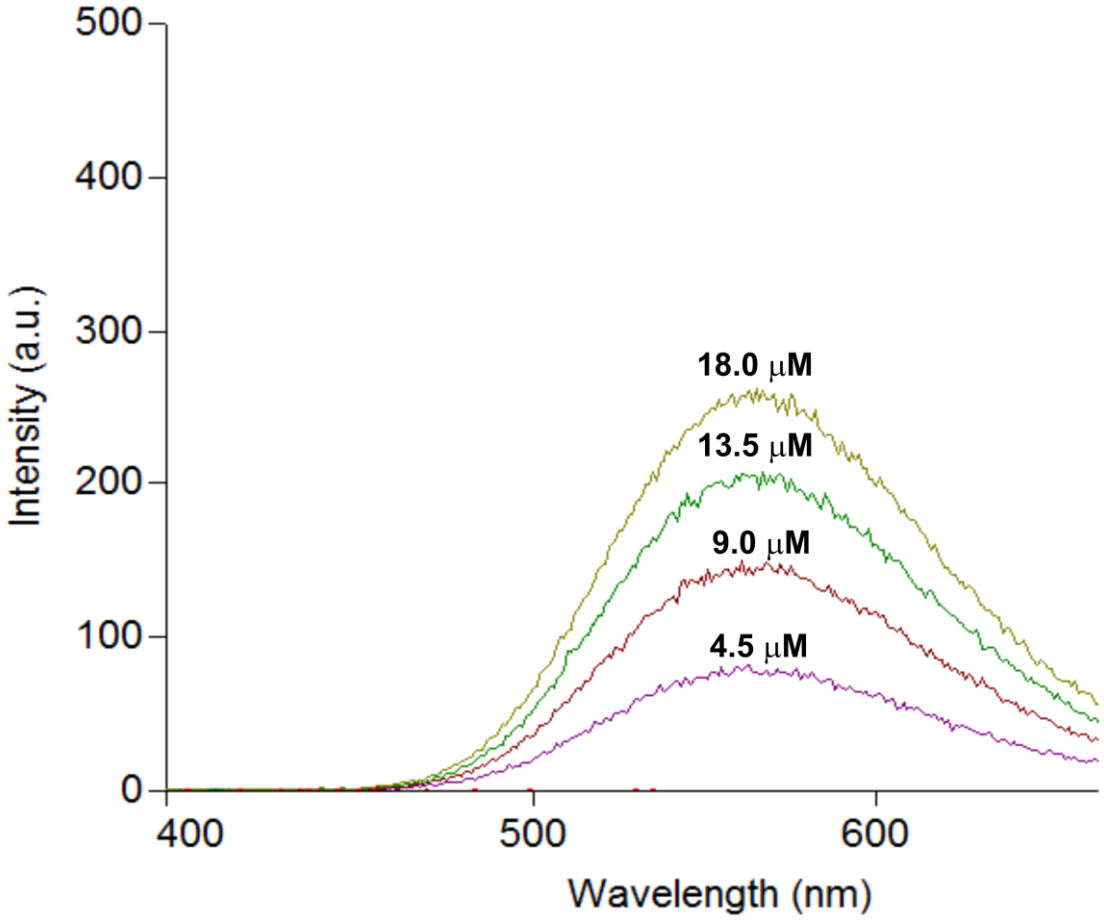
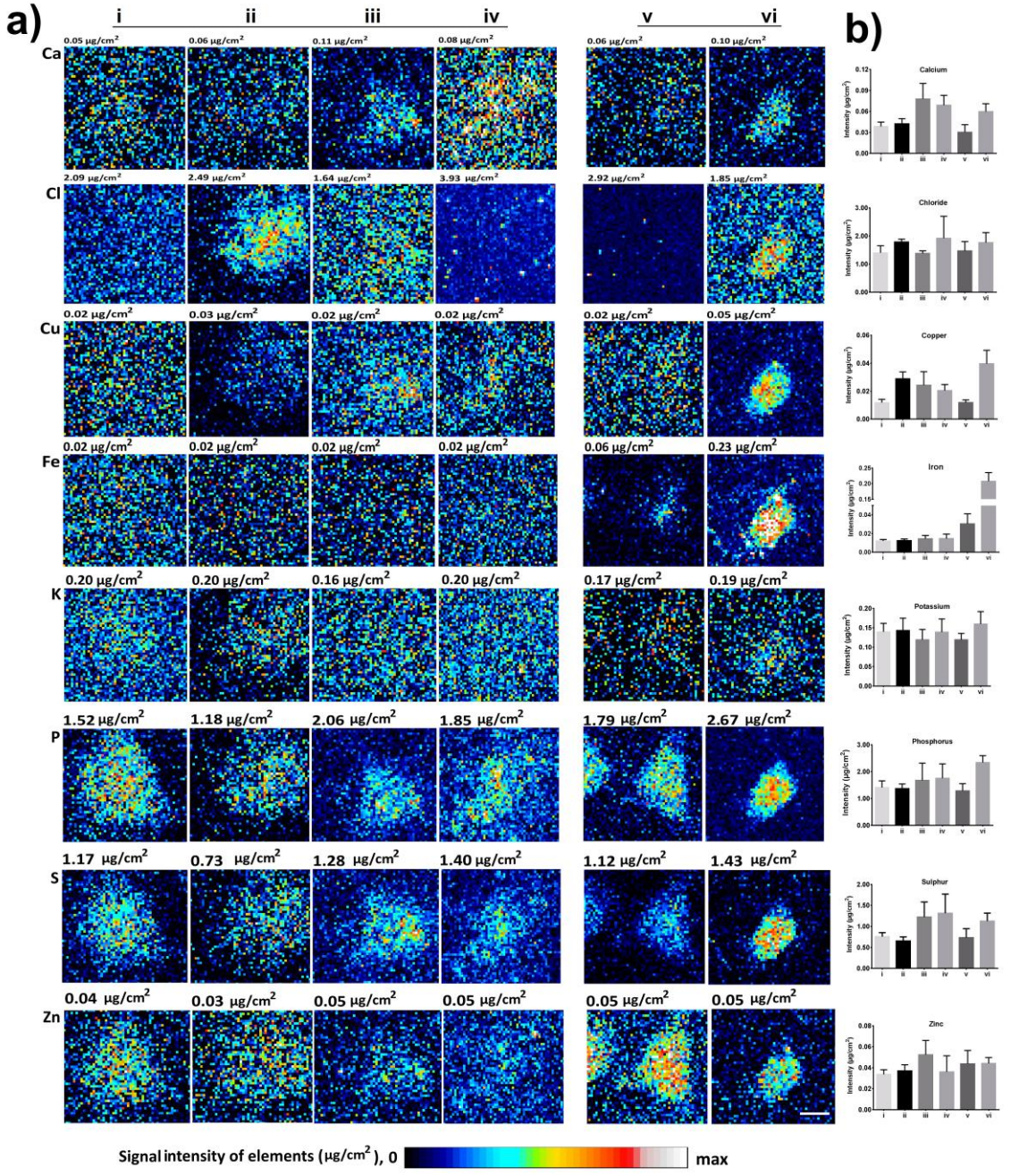


Figure S2: Distribution of elements (Ca, Cl, Cu, Fe, K, P, S and Zn) in single NRK-52E and HK-2 cells determined with X-ray fluorescence microscopy (XFM). a) NRK-52E cells (i) without treatment, (ii) treated with 5 µM FADDI-096 for 4 h, (iii) treated with 50 µM FADDI-096 for 1 h, (iv) treated with 50 µM FADDI-096 for 4 h; and HK-2 cells (v) without treatment, (vi) treated with 10 µM FADDI-096 for 4 h. Signal intensities are scaled separately for each element shown from zero to the maximum value; the numbers at the top of the relevant panels note the maximum pixel value (µg/cm^2) in each sample. Scale: 10 µm. Similar elemental distributions were observed previously.[1-4] (b) Accumulation of elements in single NRK-52E and HK-2 cells as described in panel a, measured using XFM (mean ± SD; n = 10).

Figure S2:


a)
i
ii
iii
iv
v
vi
b)
Ca
0.05 µg/cm²
0.06 µg/cm²
0.11 µg/cm²
0.08 µg/cm²
0.06 µg/cm²
0.10 µg/cm²
Cl
2.09 µg/cm²
2.49 µg/cm²
1.64 µg/cm²
3.93 µg/cm²
2.92 µg/cm²
1.85 µg/cm²
Cu
0.02 µg/cm²
0.03 µg/cm²
0.02 µg/cm²
0.02 µg/cm²
0.02 µg/cm²
0.05 µg/cm²
Fe
0.02 µg/cm²
0.02 µg/cm²
0.02 µg/cm²
0.02 µg/cm²
0.06 µg/cm²
0.23 µg/cm²
K
0.20 µg/cm²
0.20 µg/cm²
0.16 µg/cm²
0.20 µg/cm²
0.17 µg/cm²
0.19 µg/cm²
P
1.52 µg/cm²
1.18 µg/cm²
2.06 µg/cm²
1.85 µg/cm²
1.79 µg/cm²
2.67 µg/cm²
S
1.17 µg/cm²
0.73 µg/cm²
1.28 µg/cm²
1.40 µg/cm²
1.12 µg/cm²
1.43 µg/cm²
Zn
0.04 µg/cm²
0.03 µg/cm²
0.05 µg/cm²
0.05 µg/cm²
0.05 µg/cm²
0.05 µg/cm²
Calcium
Chloride
Copper
Iron
Potassium
Phosphorus
Sulphur
Zinc
Intensity (µg/cm²)
Signal intensity of elements (µg/cm²), 0
max

References:

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