This journal is (c) The Royal Society of Chemistry 2009

Supplementary Material

Synthesis of Type-II/Type I CdTe/CdS/ZnS Quantum Dots and Their Use in Cellular Imaging.

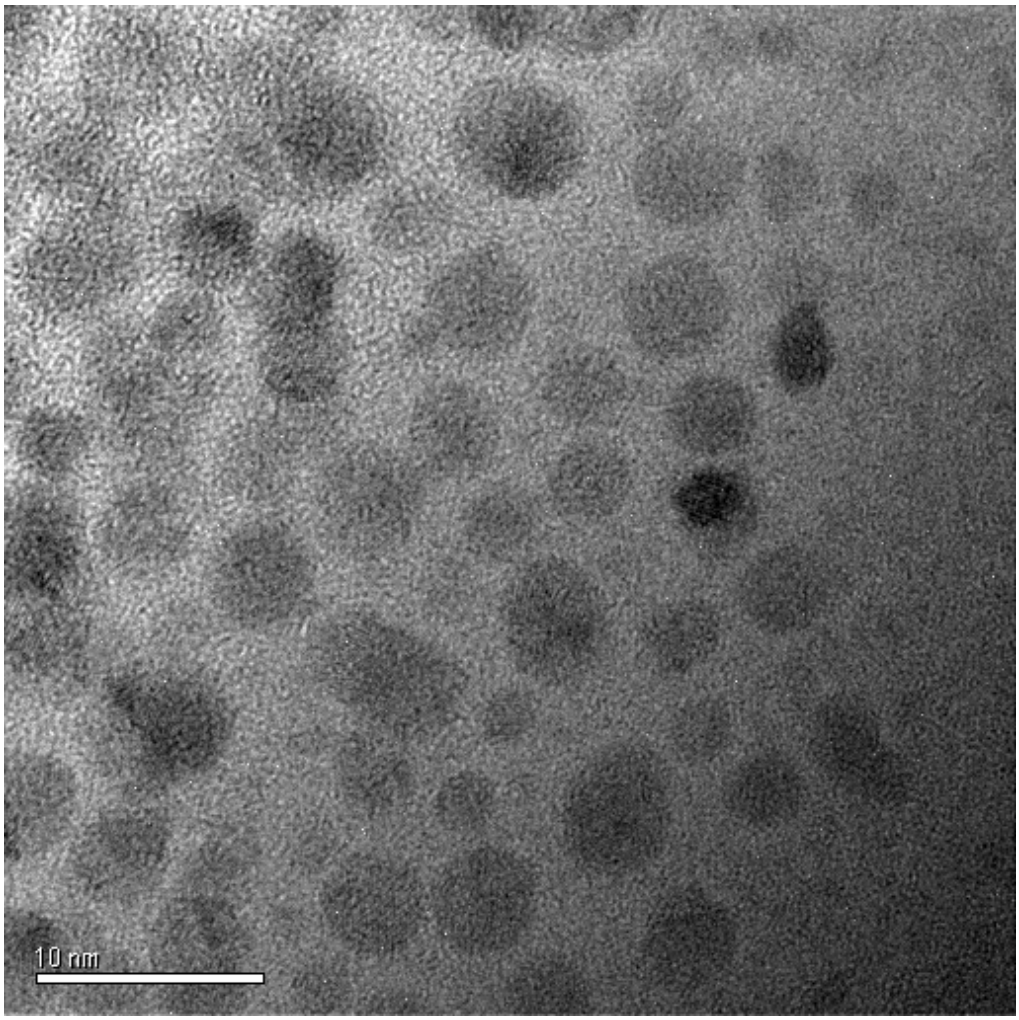

Figure 1 – TEM image of CdTe particles, bar = 10 nm.

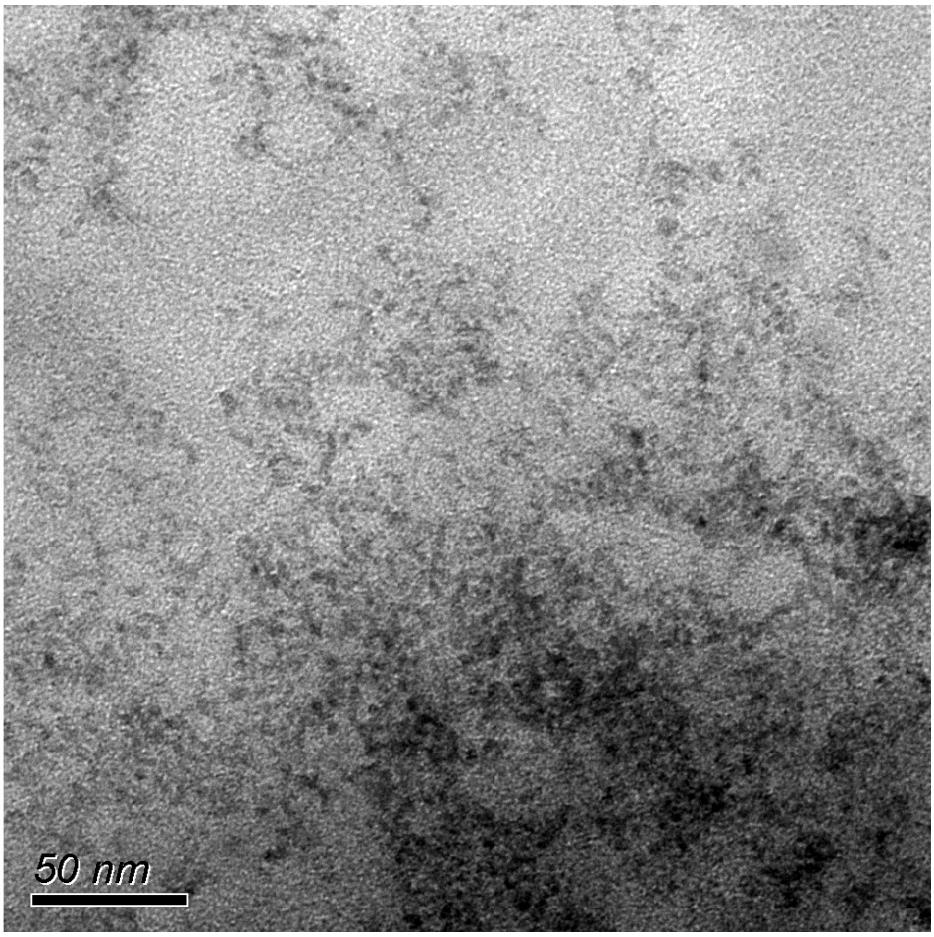

Figure 2 – TEM image of CdTe/CdS particles, bar = 50 nm.

This journal is (c) The Royal Society of Chemistry 2009

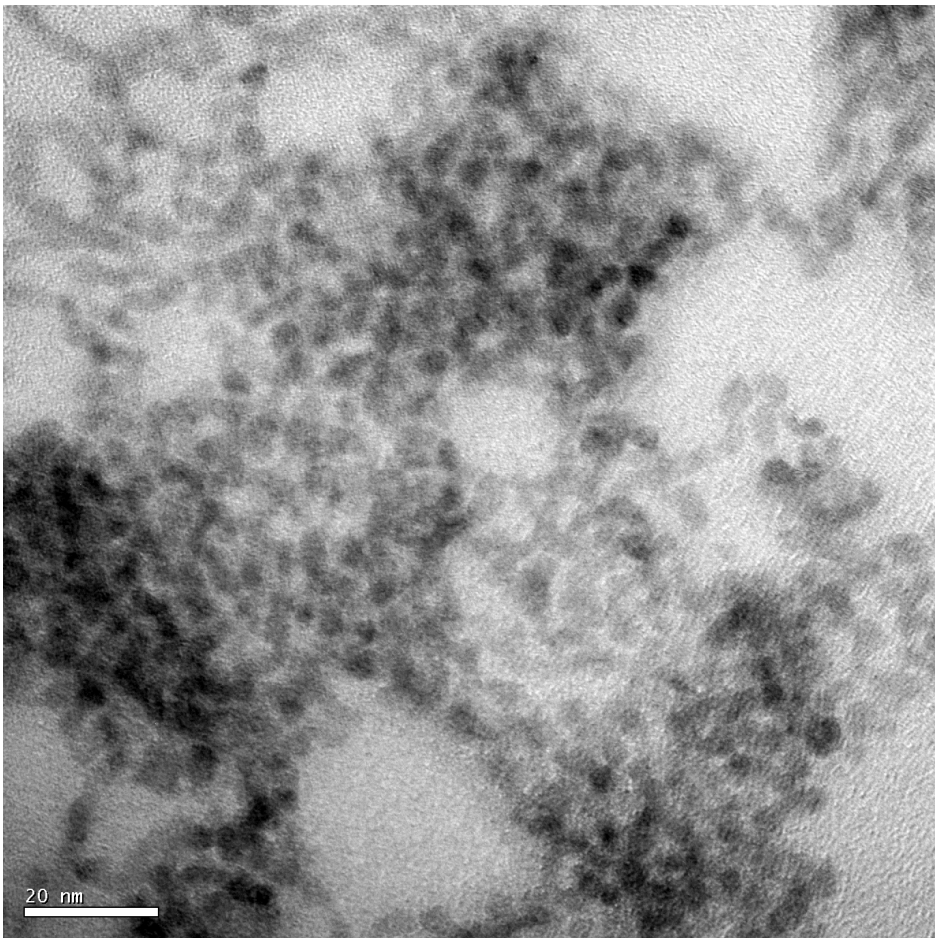

Figure 3 – TEM image of CdTe/CdS/ZnS particles, bar = 20 nm.

This journal is (c) The Royal Society of Chemistry 2009

Cellular imaging with QDs CdTe/CdS/ZnS capped with mercaptoundecanoic acid.

Cellular uptake of the QDs - consistent uptake observed.
20 µl of the sample alone or pre-mixed either with 1 µl or 10 µl of PromoFectin (a transfection reagent used for cell transformations with plasmid DNA) was added to 2 ml of HeLa cell culture and imaged 24h later. Emission imaged using the PMT channel (>650nm).

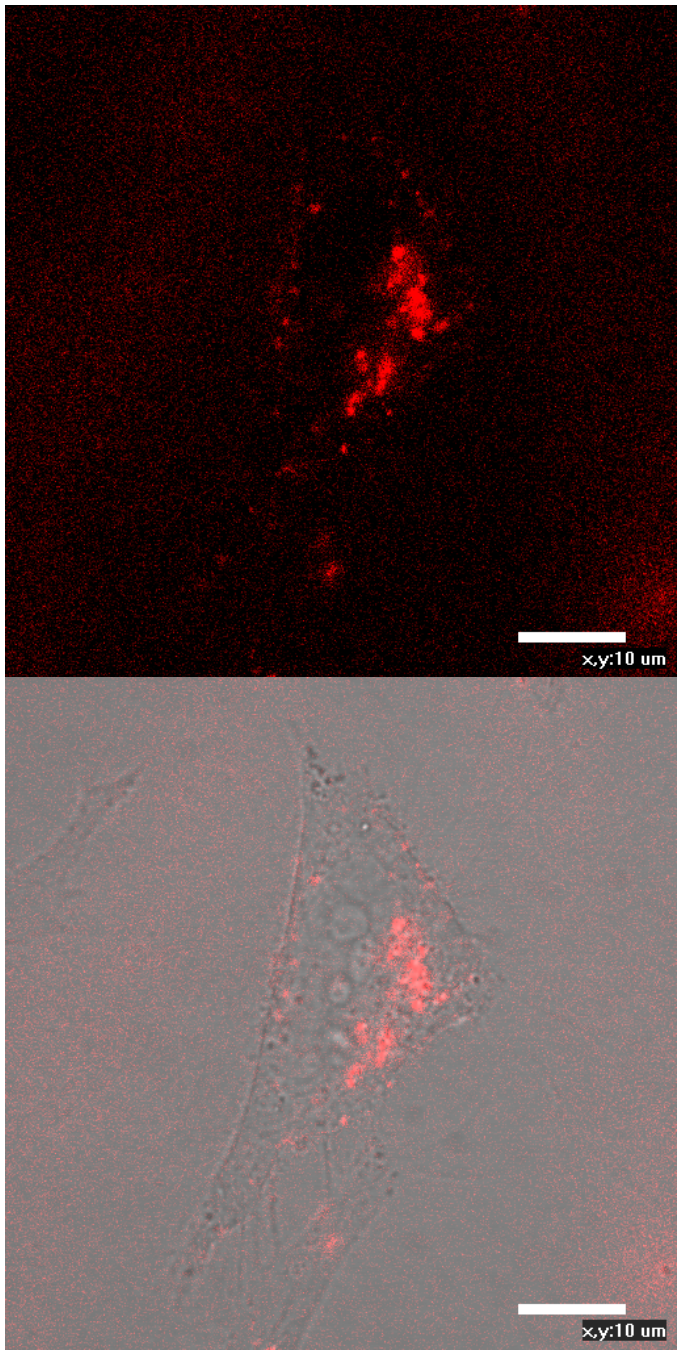

Figure 4 - HeLa + QDs + 1 µl PromoFectin

At increased loading:

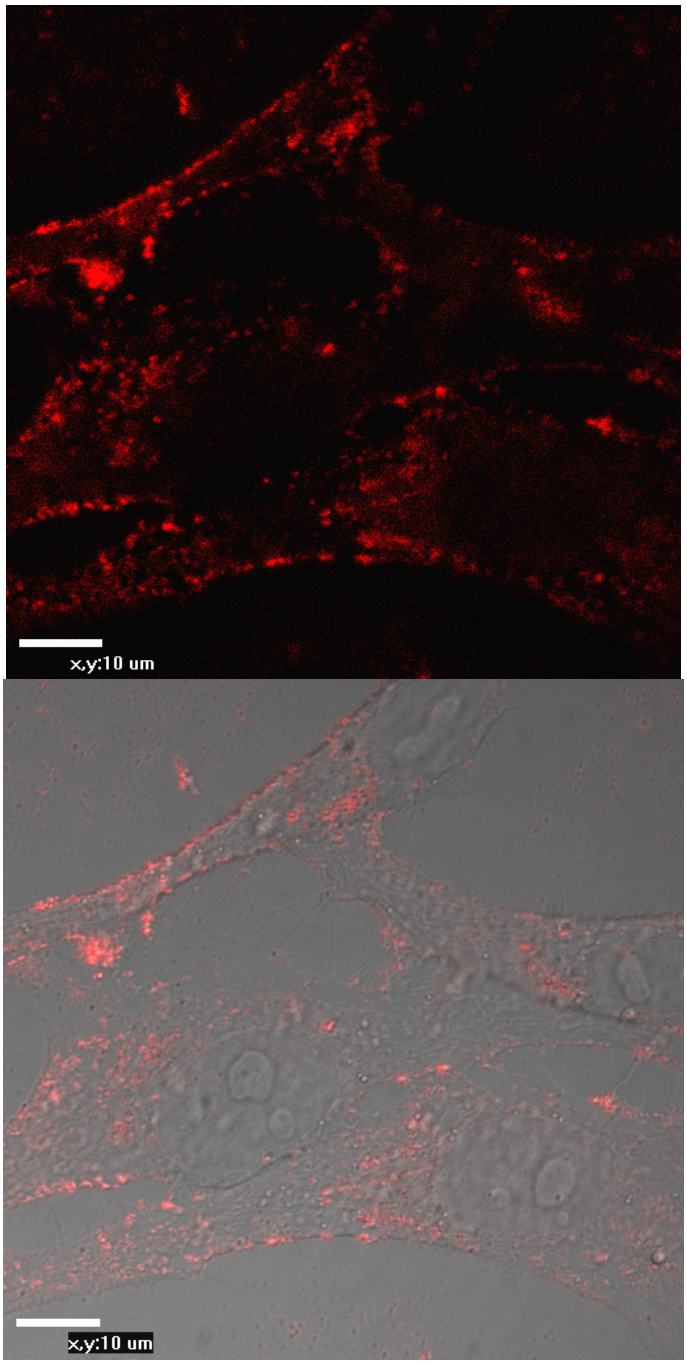

Figure 5 - HeLa + 40 µl QDs + 2 µl PromoFectin

This journal is (c) The Royal Society of Chemistry 2009

Cellular localisation studies:

In the cells the QDs accumulate mainly around nucleus – there is no detectable penetration of the nucleus. The nuclei were stained with nuclear dye DRAQ 5 (Ex 633nm, Em 680nm).

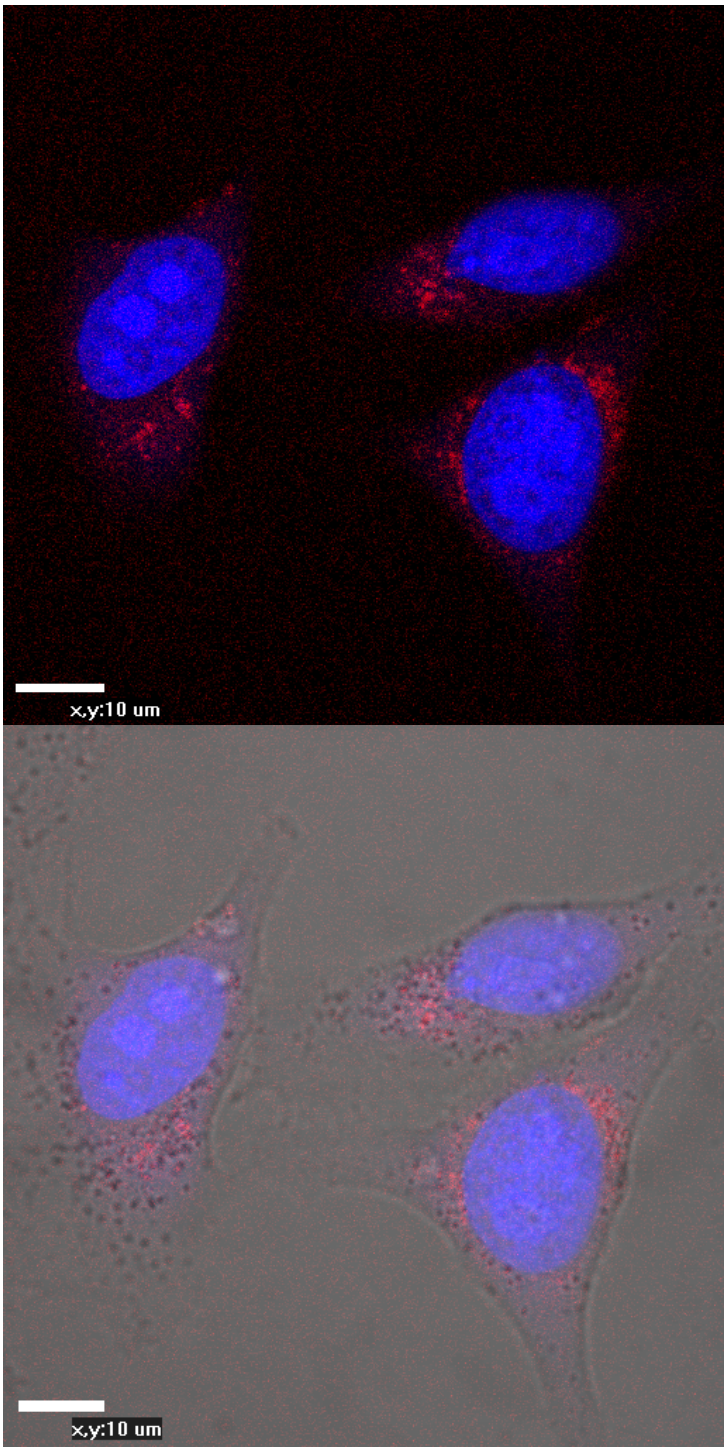

Figure 6 - HeLa +QDs (red) + DRAQ5 (nucleus, blue)

Co-localization studies of QDs loaded in the cells with the cytoplasm dye CellTracker (Ex 543nm, Em 565nm) or the lysosomal dye LysoTracker (Ex 543nm, Em 590nm) are difficult to interpret due to bleed-through of the marker signals into the QDs channel and *vice versa*. QD labelling pattern is clearly distinct from the cytoplasm. QDs clearly accumulate in the vesicules some of which might be lysosomes.

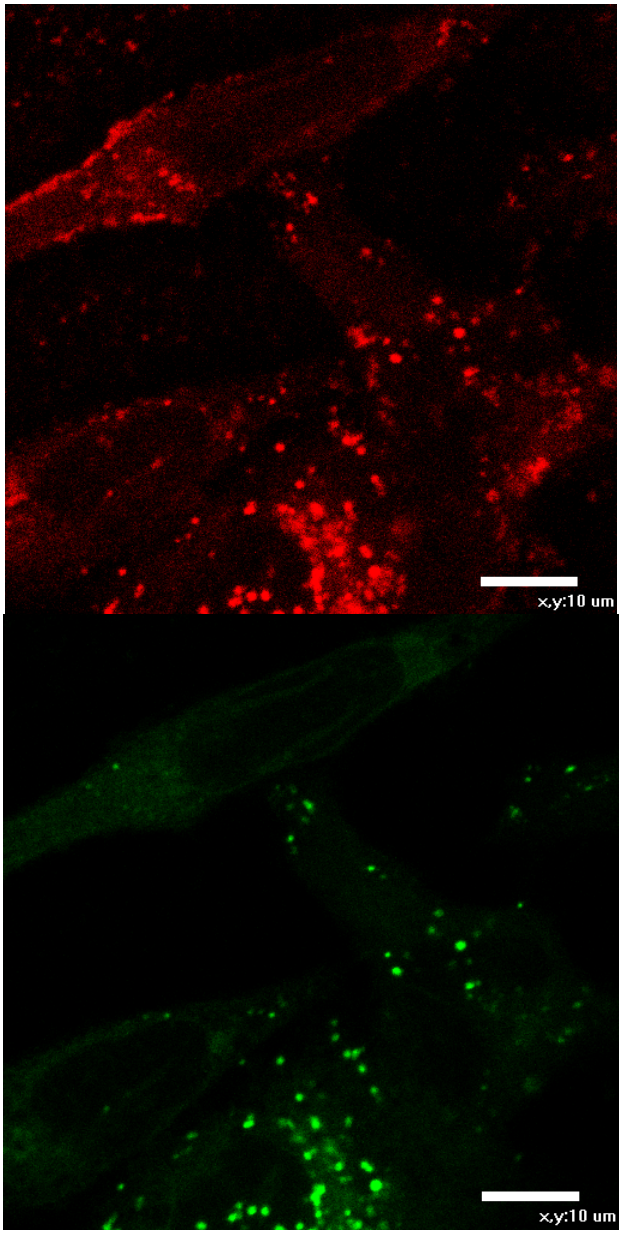

Figure 7 - *In vivo* dots Lyosome stain

This journal is (c) The Royal Society of Chemistry 2009

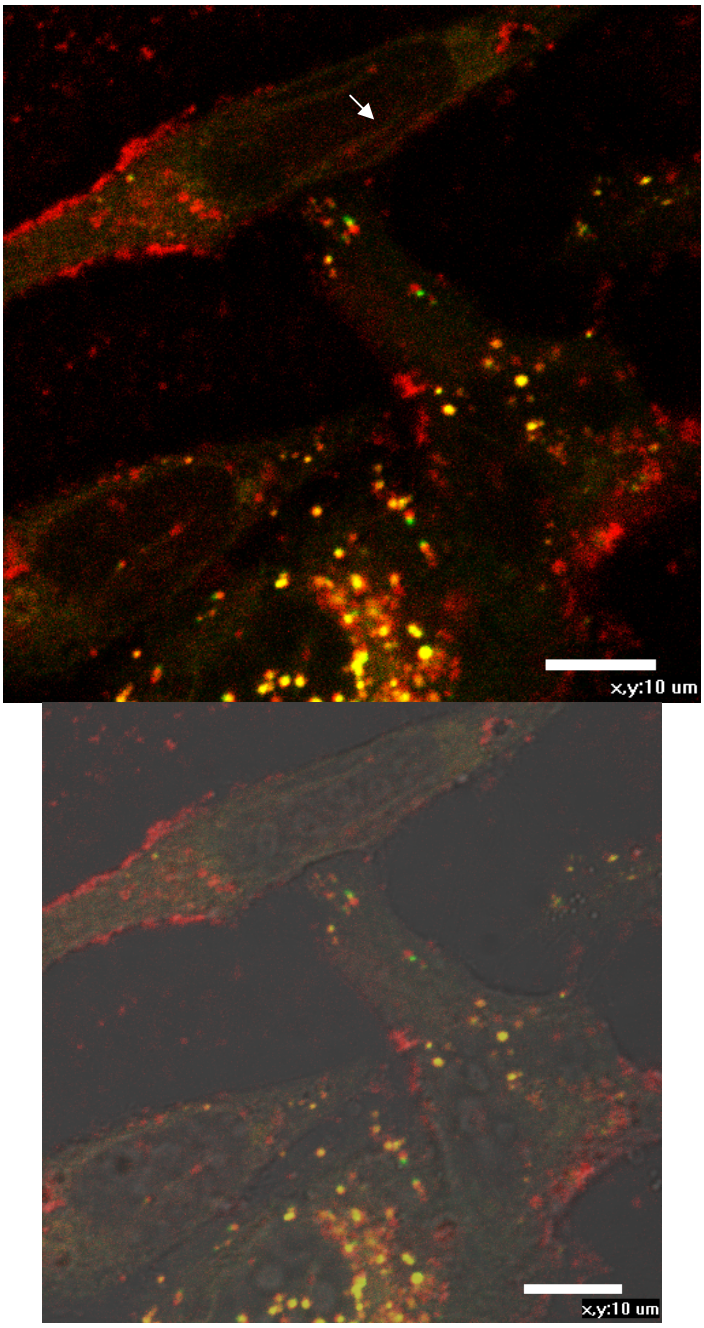

Figure 8 - HeLa + QDs (red) + LysoTracker (lysosomes, green)