

Magnetically Propelled Chained Nanocomposites for On-Demand Biologically Relevant Media Exploration

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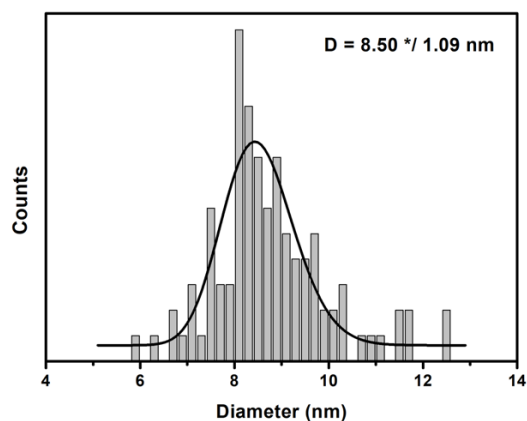


Figure S1. Size (diameter) distribution analysis fitted to a lognormal function of the iron oxide ($\text{Fe}_3\text{O}_4/\gamma\text{-Fe}_2\text{O}_3$) nanoparticles synthesized and employed in this study.

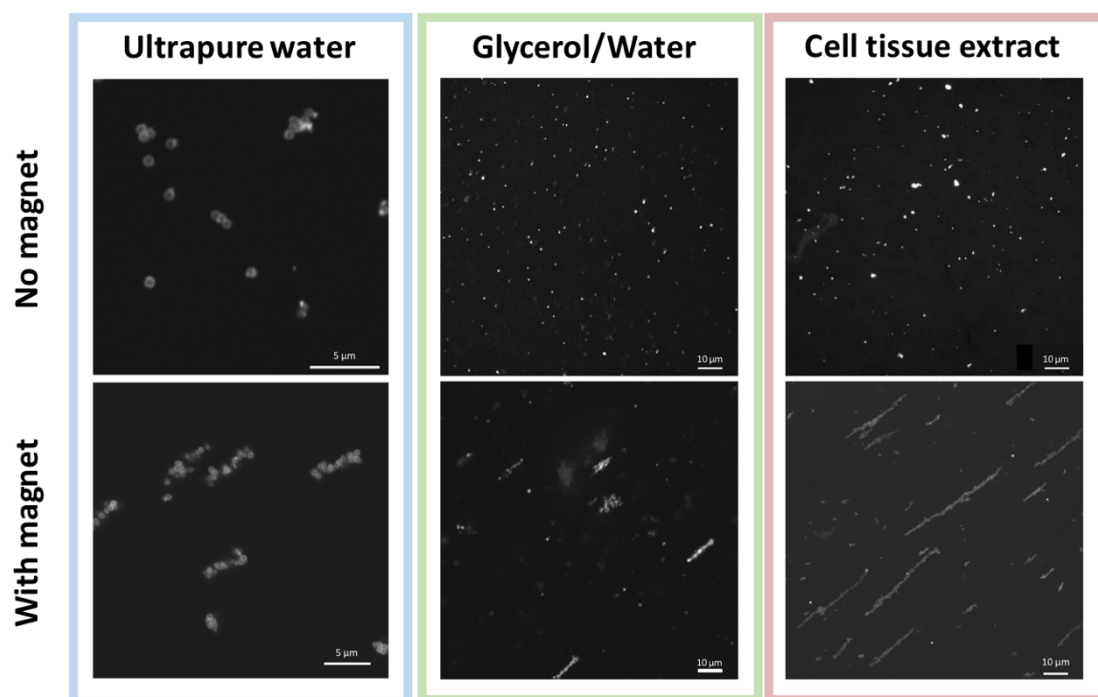


Figure S2. CLSM images of the PS@IO nanocomposites before (upper panel) and after (bottom panel) applying a magnetic field, in three different media: ultrapure water (left), glycerol/water (center), and cell tissue extract (right).

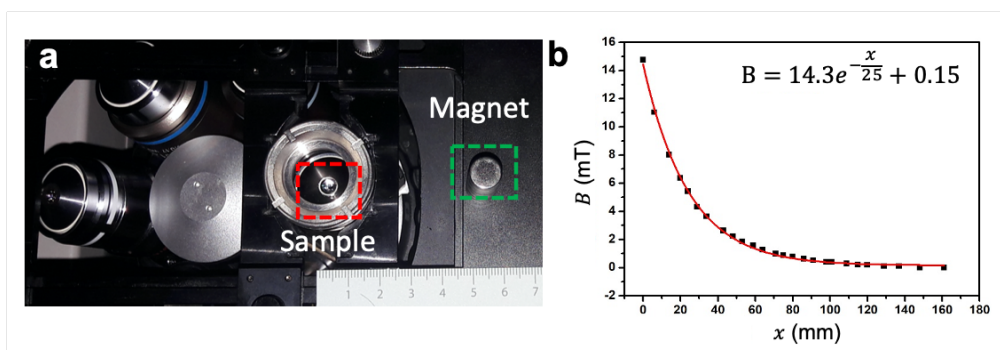


Figure S3. Photograph of the experimental set-up for the magnetic manipulation of the chained swimmers made of PS@IO nanocomposites in different media, stemming from the magnetic field gradient, plotted in (b).

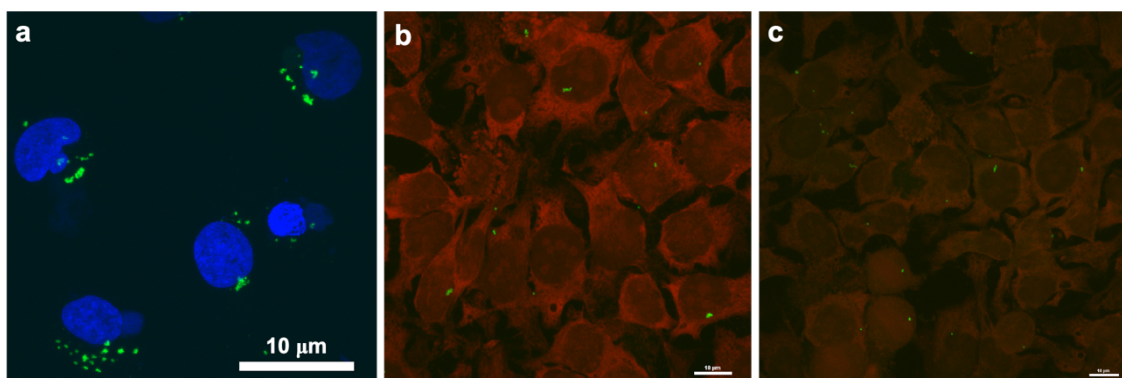


Figure S4. CLSM images of HeLa cells (nuclei stained with Hoechst and the cytosol with ethidium bromide, blue and red channels, respectively) displaying internalized PS@IO nanocomposites (green channel), randomly distributed in the absence (a) or forming chained swimmers in the presence (b and c, scale bar: 10 μm) of a magnetic field gradient.

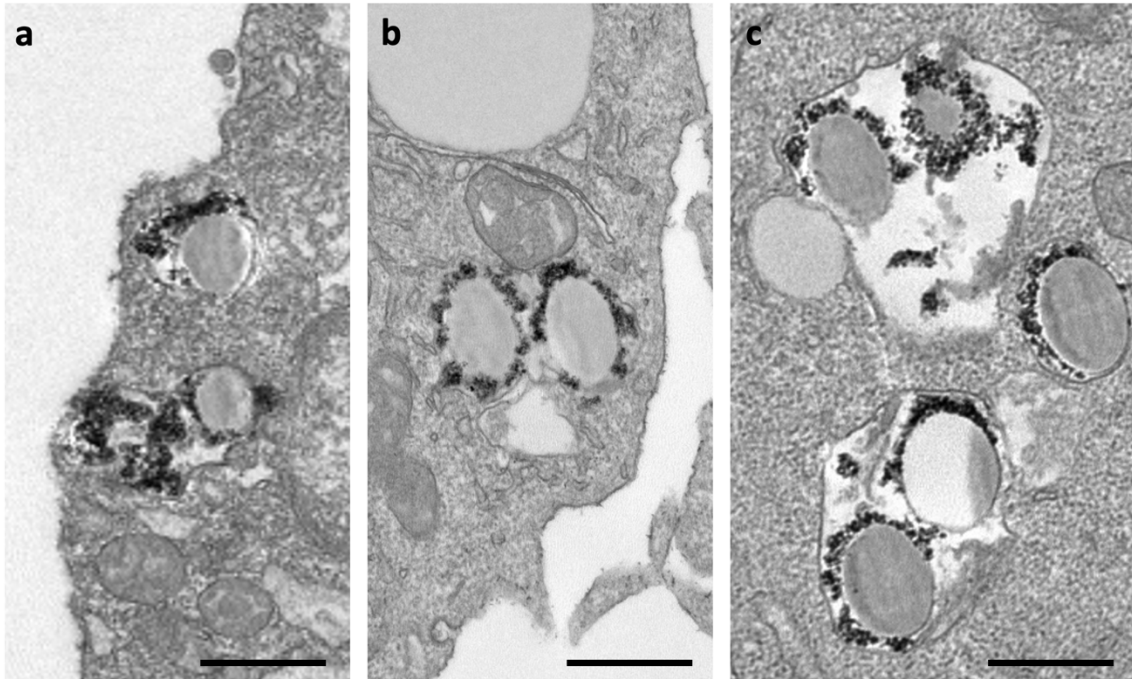


Figure S5. TEM images of the initially trapped particles, coated with endosomal-like membranes (a), of intracellular trapped nanoparticles, some inside the endosomes and some in the cytoplasm (b, c) (Scale bar: 500 nm).