Supporting Information

Carboxymethyl cellulose Grafted Mesoporous Silica hybrid Nanogels for enhanced Cellular uptake and release of Curcumin

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1. SEM of MSNs

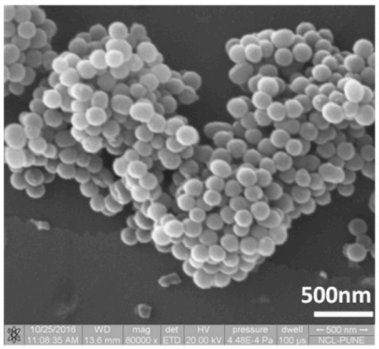

Fig.1S. SEM image of as synthesized MSNs

2. Multimodal distribution of as synthesized and Functionalized MSNs

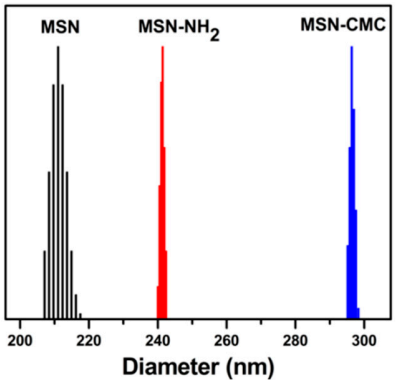

Fig.2S. DLS of MSN, MSN-NH_2 and MSN-CMC

3. Pore diameter of MSN

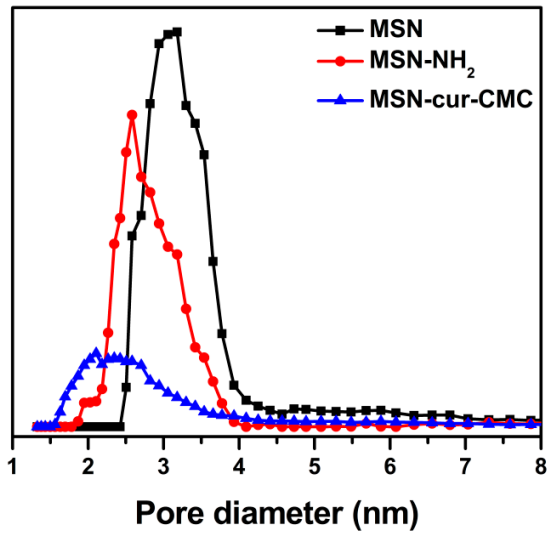

Fig.3S. Pore diameter of MSN, MSN-NH_2 and MSN-cur-CMC using BJH method from N_2-adsortion desorption studies

4. Cellular uptake of MSN-NH_2 and MSN-CMC

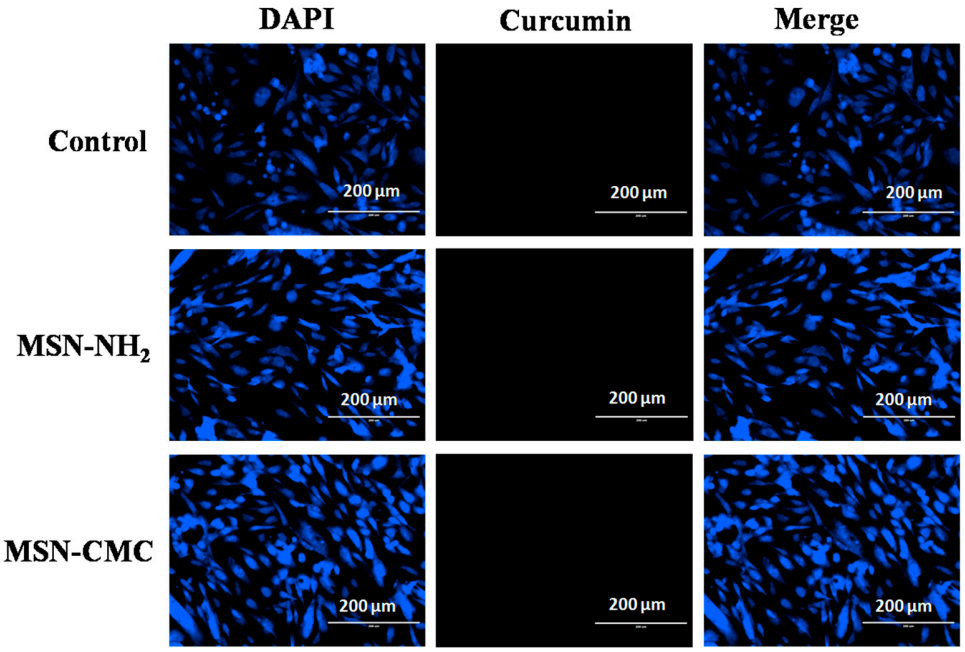

Fig.4S. Intracellular uptake of MSN-NH_2 and MSN-CMC using fluorescence microscopy. Images of MDA-MB-231 incubated with 200µg/ml of MSN-NH_2 and MSN- CMC. Control refers to the non treated MDA-MB-231 cells. Blue fluorescence is due to nuclei staining of cell with DAPI

5. Apoptosis of MSN-NH_2 and MSN-CMC

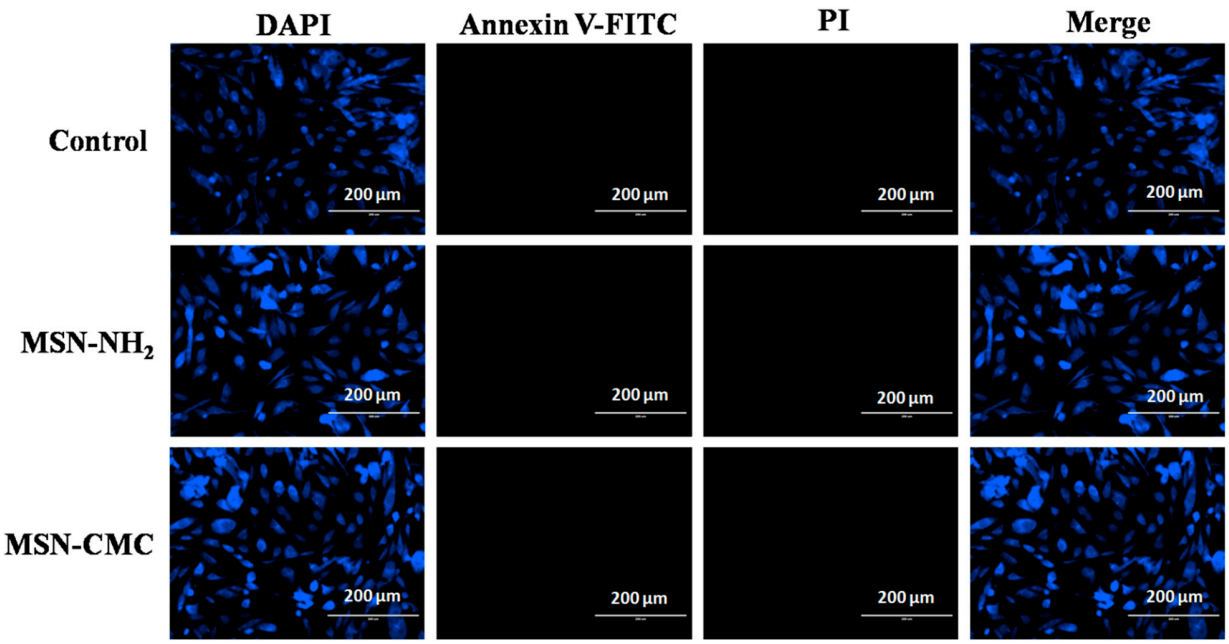

Fig.5S. Apoptosis of MDA-MB-231 cells using fluorescence microscopy. Images are at a magnification of 200µm of MDA-MB-231 incubated with 200µg/ml of MSN-NH_2 and MSN- CMC. Images of MDA-MB-231 incubated with 200µg/ml of MSN-NH_2 and MSN- CMC. Control refers to the non treated MDA-MB-231 cells. Blue fluorescence is due to nuclei staining of cell with DAPI

6. Fluorescence due to curcumin from MSN-cur-NH_2 and MSN-cur-CMC after 48hrs

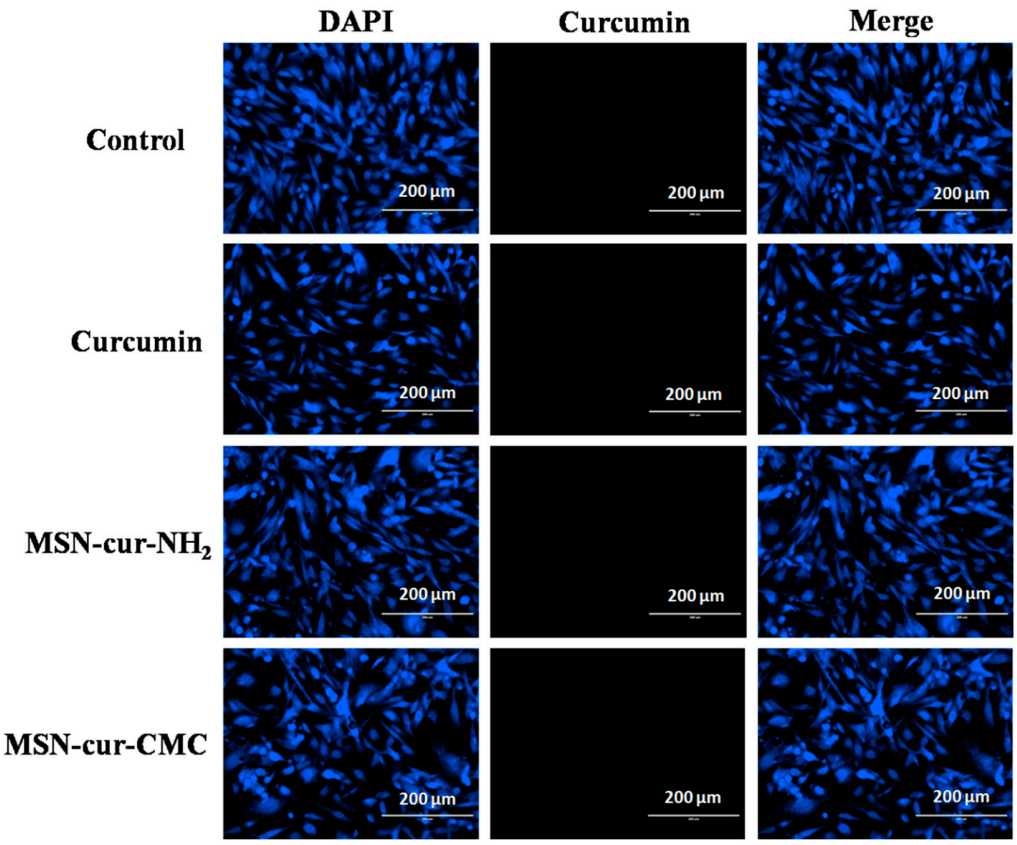

Fig.6S. Intracellular uptake of $–NH_2$ and –CMC functionalized MSNs using fluorescence microscopy after 48hrs. Images of MDA-MB-231 incubated with 16µg/ml of free curcumin, MSN-cur-NH_2 (GI_{50}=7µg/ml) and MSN-cur-CMC (GI_{50}=1.5µg/ml). Control refers to the non treated MDA-MB-231 cells. Blue fluorescence is due to nuclei staining of cell with DAPI and green due to fluorescence of curcumin release inside the cells.