Supplementary Information

In vivo Multimodality Imaging of miRNA-16 Iron Nanoparticle Reversing Drug Resistant to Chemotherapy in A Mouse Gastric Cancer Model

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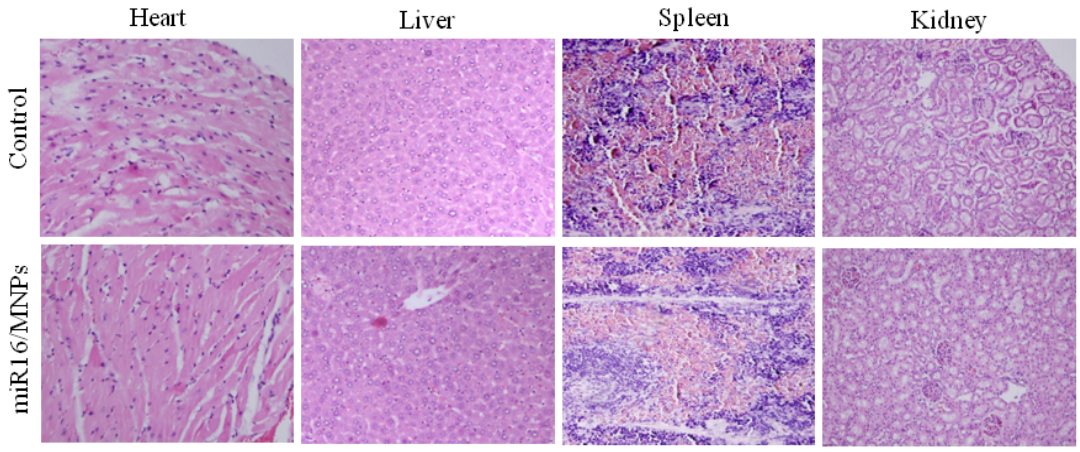

Figure S1. H&E stained images of major organs (heart, liver, spleen and kidney), harvested from mice at the end of treatment (day 28) with/without miR16/MNPs for several times.

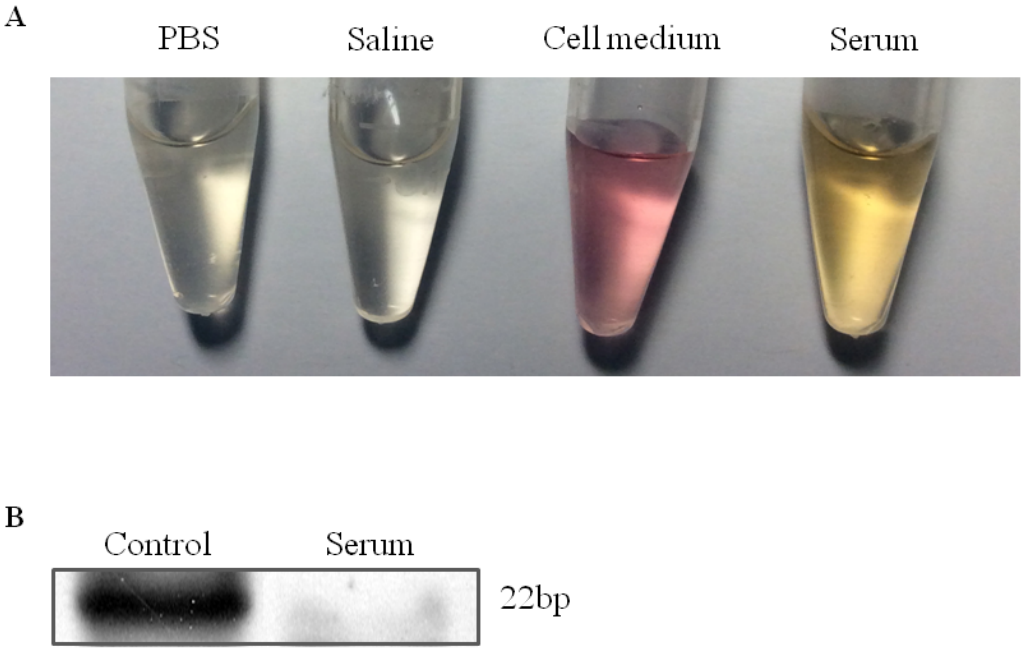

Figure S2. (A) The photographs of miR16/MNPs in various media such as PBS, saline, cell medium and serum. (B) Agarose gel electrophoresis for analysis of detached miR16 content in removed serum after centrifugation filtration.

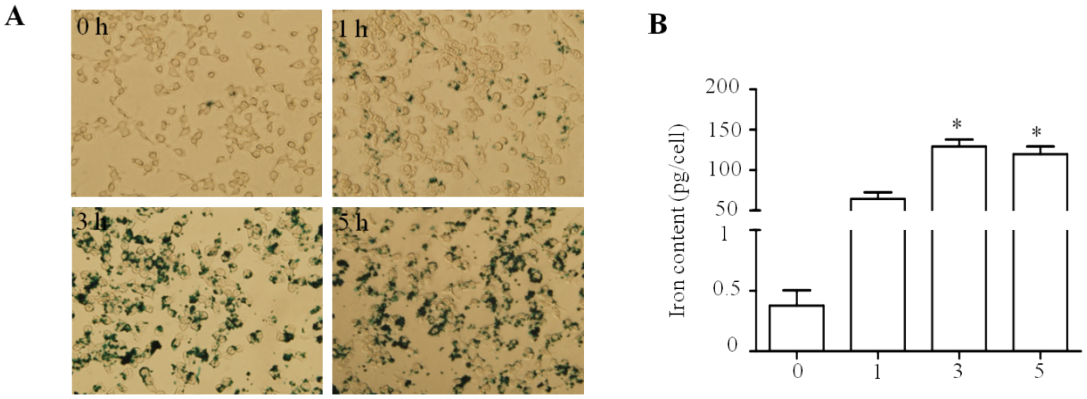

Figure S3. (A) Microscope images of Prussian blue dye stained SGC7901 cells at 0h,1h,3h and 5h after miR16/MNPs were added into the medium. The iron in the cells was stained blue. (B) FeIron accumulation in SGC7901 cells detected by ICP AES analysis. *P<0.05 compared with 1 h.

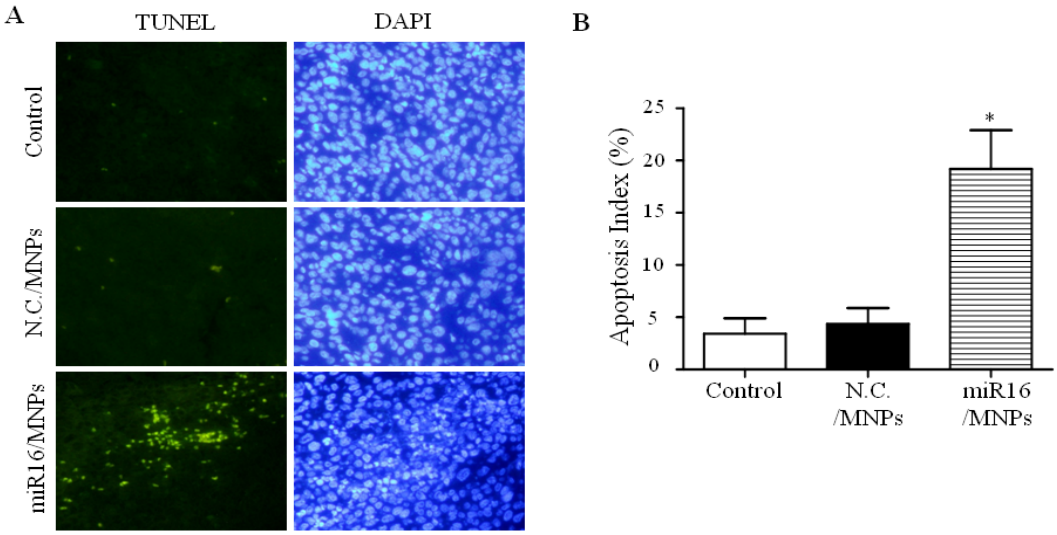

Figure S4. (A) and (B) Apoptotic cells within tumor samples were detected by TUNEL staining.

Materials and Methods

TUNEL staining on tumor tissues

After successful establishment of xenografted tumor model, mice were subjected to ADR treatment with or without miR16/MNPs. At the end of treatment, mice in different groups were sacrificed to collect tumor samples. Apoptotic cells within tumor was determined by terminal deoxynucleotidyl transferase-mediated dUTP-biotin nick end labeling (TUNEL) assay using an in situ cell death detection kit (Roche Molecular Biochemicals, Mannheim, Germany). A double-staining technique was used, in brief, TUNEL staining for apoptotic cell nuclei and 4,6-diamino-2-phenylindole (DAPI) staining for all cell nuclei as. The index of apoptosis was expressed by the number of positively stained apoptotic cells/the total number of cells counted×100%.