Supplementary Materials: Distribution of Iron Oxide Core-Titanium Dioxide Shell Nanoparticles in VX2 Tumor Bearing Rabbits Introduced by Two Different Delivery Modalities

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Figure S1. Cryogenic transmission electron microscopy (Cryo-TEM) of nanoparticles deposited onto and frozen on lacey carbon TEM grid at magnification: (Top left) 6000×; and (top right) 8000×. (Bottom Left) Excerpt from a 10,000× image of the same grid. Slightly darker areas of the nanoparticle correspond to iron oxide core particles. Overall, shapes and sizes of both core nanoparticles and core-shell nanoparticles were variable. This is in keeping with results of colloidal TiO₂ synthesis we have done in the past, both for pure TiO₂ nanoparticles and for particles containing Fe₃O₄ shells [1–13].
Figure S2. (a) Two VX2 tumors implanted in left lobe of rabbit liver after gross necropsy. (b) Representative selective hepatic artery X-ray DSA contrast in rabbit liver showing: hepatic artery distribution (b-1); and VX2 tumors perfusion (b-2). We have used X-Ray digital subtraction angiography (DSA) imaging to help us guide transarterial intra-catheter delivery to liver tumors as has been done in the past.
Rabbit 1 – TC Injected Rabbit

VX2 Tumor H&E Stain  VV2 Tumor Histochemical Stain

Liver H&E Stain  Liver Histochemical Stain

Spleen H&E Stain  Spleen Histochemical Stain

Lung H&E Stain  Lung Histochemical Stain

Kidney H&E Stain  Kidney Histochemical Stain
Rabbit 2 – TC Injected Rabbit

VX2 Tumor H&E Stain  
Liver H&E Stain  
Spleen H&E Stain  
Lung H&E Stain  
Kidney H&E Stain

VX2 Tumor Histochemical Stain  
Liver Histochemical Stain  
Spleen Histochemical Stain  
Lung Histochemical Stain  
Kidney Histochemical Stain
Rabbit 3 – TC Injected Rabbit

VX2 Tumor H&E Stain

Liver H&E Stain

Spleen H&E Stain

Lung H&E Stain

Kidney H&E Stain

VX2 Tumor Histochemical Stain

Liver Histochemical Stain

Spleen Histochemical Stain

Lung Histochemical Stain

Kidney Histochemical Stain
Rabbit 4 – IV Injected Rabbit

- VX2 Tumor H& E Stain
- VX2 Tumor Histochemical Stain
- Liver H& E Stain
- Liver Histochemical Stain
- Spleen H& E Stain
- Spleen Histochemical Stain
- Lung H& E Stain
- Lung Histochemical Stain
- Kidney H& E Stain
- Kidney Histochemical Stain
Rabbit 5 – IV Injected Rabbit

VX2 Tumor H&E Stain  VX2 Tumor Histochemical Stain

Liver H&E Stain  Liver Histochemical Stain

Spleen H&E Stain  Spleen Histochemical Stain

Lung H&E Stain  Lung Histochemical Stain

Kidney H&E Stain  Kidney Histochemical Stain
Rabbit 6 – IV Injected Rabbit

VX2 Tumor H&E Stain

VX2 Tumor Histochemical Stain

Liver H&E Stain

Liver Histochemical Stain

Spleen H&E Stain

Spleen Histochemical Stain

Lung H&E Stain

Lung Histochemical Stain

Kidney H&E Stain

Kidney Histochemical Stain
Control 1 - Not Injected Rabbit

Liver H&E Stain

Liver Histochemical Stain

Spleen H&E Stain

Spleen Histochemical Stain

Lung H&E Stain

Lung Histochemical Stain

Kidney H&E Stain

Kidney Histochemical Stain
Figures S3. Side by side comparison of tissue overview images obtained with hematoxylin and eosin (H&E) staining and histochemical staining for nanoparticles based on dopamine attachment to nanoparticles in situ. Details of these images are presented in Figures 2 and 3.


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