

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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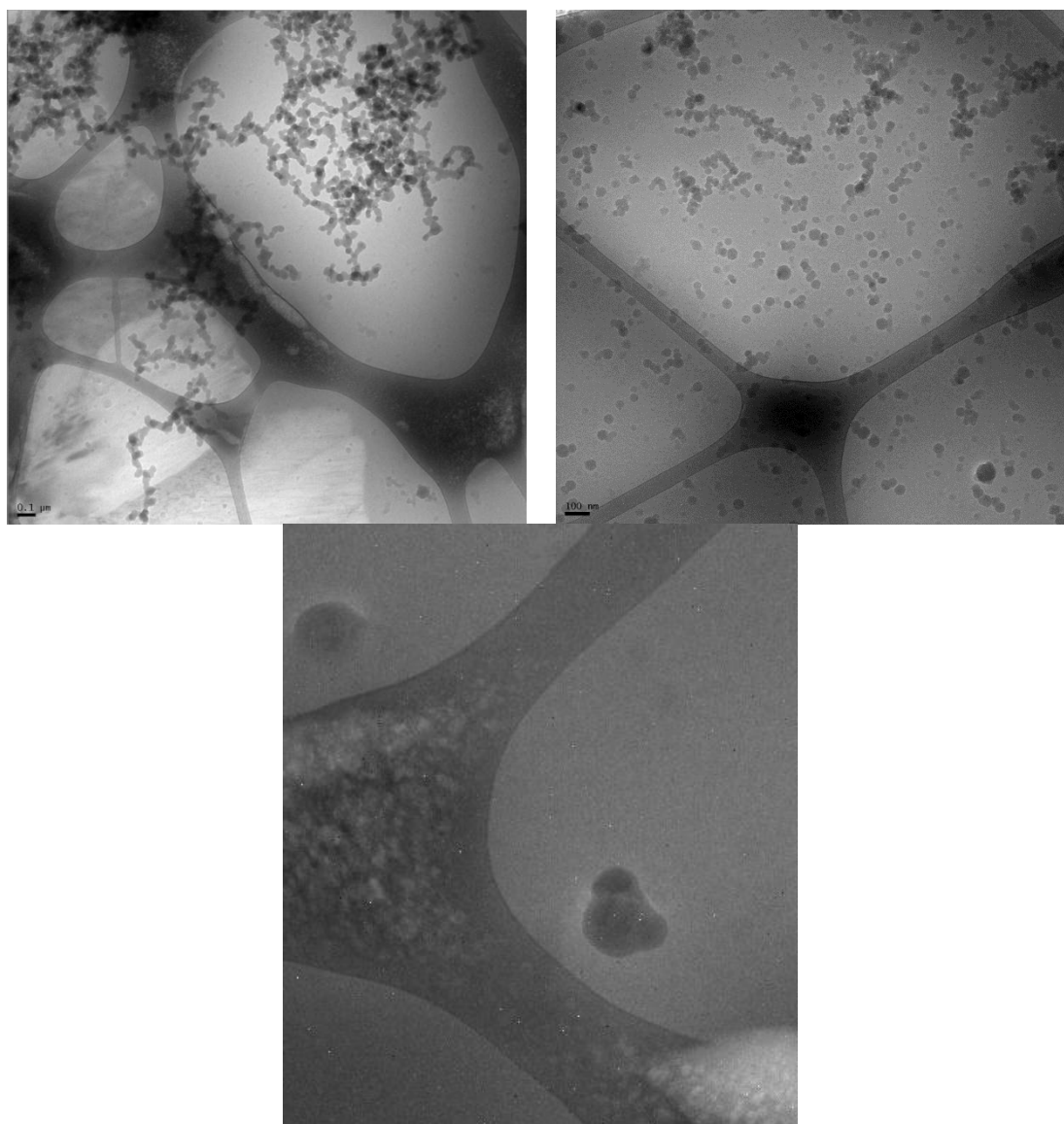


Figure S1. Cryogenic transmission electron microscopy (Cryo-TEM) of nanoparticles deposited onto and frozen on lacey carbon TEM grid at magnification: (**Top left**) 6000 \times ; and (**top right**) 8000 \times . (**Bottom Left**) Excerpt from a 10,000 \times image of the same grid. Slightly darker 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 TiO_2 synthesis we have done in the past, both for pure TiO_2 nanoparticles and for particles containing Fe_3O_4 shells [1–13].

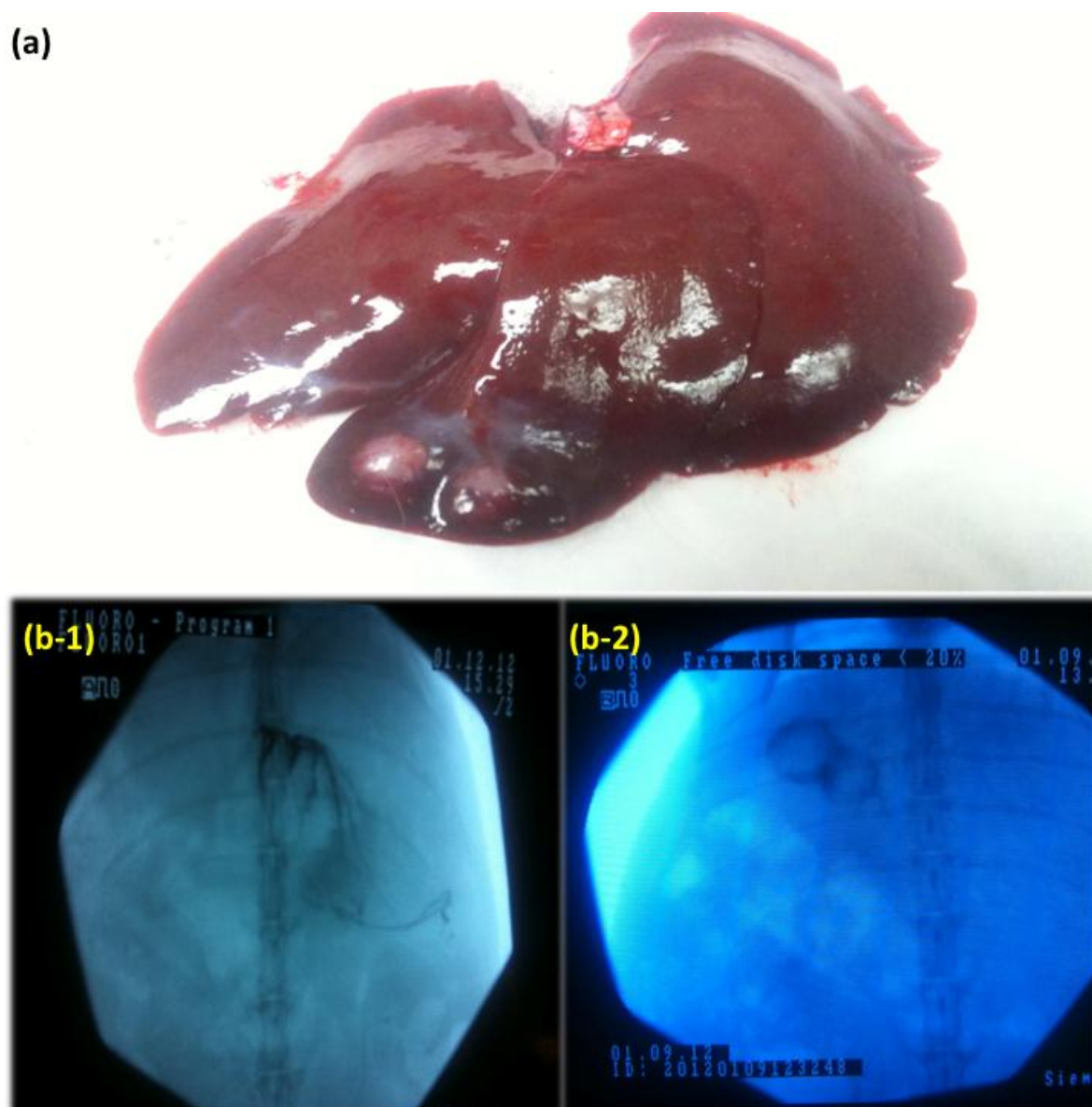
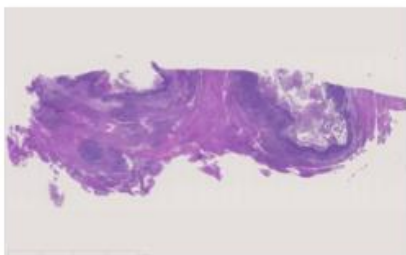


Figure S2. (a) Two VX2 tumors implanted in left lobe of rabbit liver after gross necropsy. (b) Representative selective hepatic artery X-ray DSA contrast in rabbit liver showing: hepatic artery distribution (b-1); and VX2 tumors perfusion (b-2). We have used X-Ray digital subtraction angiography (DSA) imaging to help us guide transarterial intra-catheter delivery to liver tumors as has been done in the past.

Rabbit 1 – TC Injected Rabbit

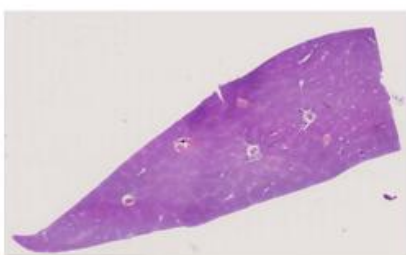
VX2 Tumor H& E Stain



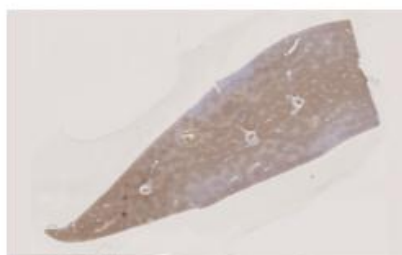
VX2 Tumor Histochemical Stain



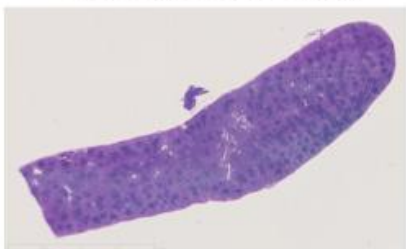
Liver H& E Stain



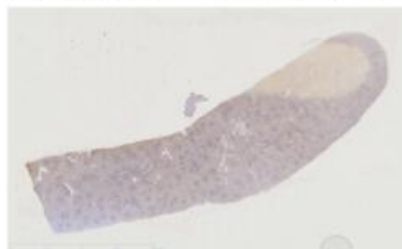
Liver Histochemical Stain



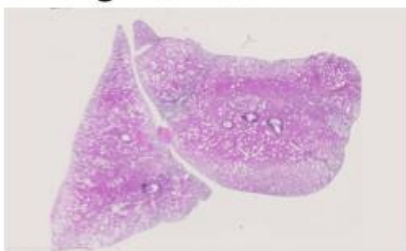
Spleen H& E Stain



Spleen Histochemical Stain



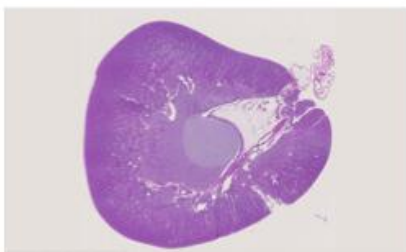
Lung H& E Stain



Lung Histochemical Stain



Kidney H& E Stain

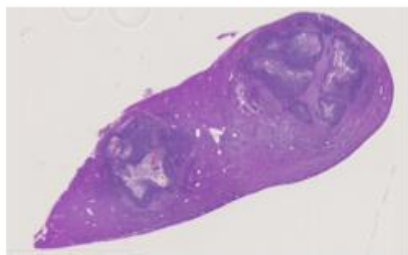


Kidney Histochemical Stain



Rabbit 2 – TC Injected Rabbit

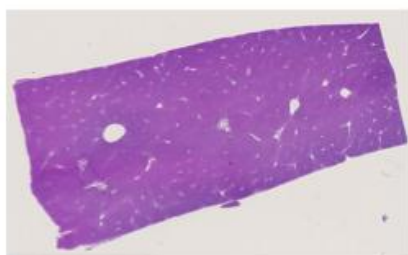
VX2 Tumor H& E Stain



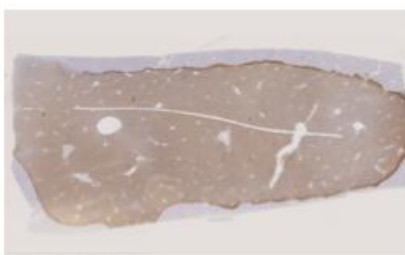
VX2 Tumor Histochemical Stain



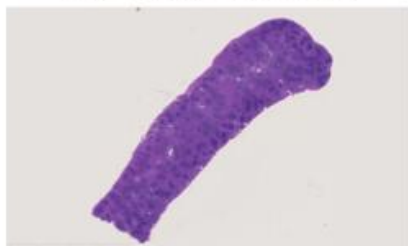
Liver H& E Stain



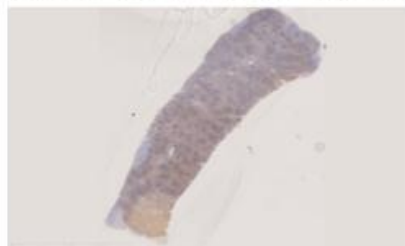
Liver Histochemical Stain



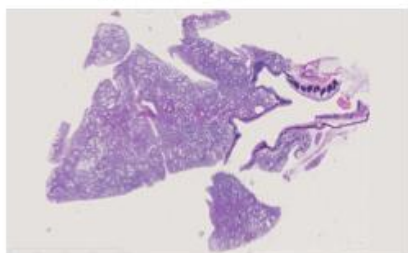
Spleen H& E Stain



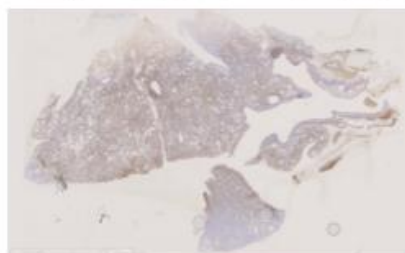
Spleen Histochemical Stain



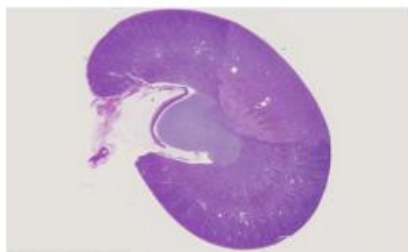
Lung H& E Stain



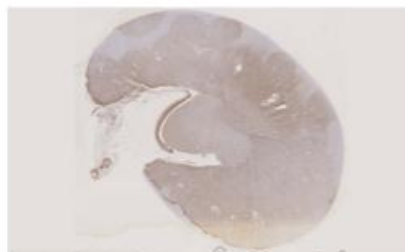
Lung Histochemical Stain



Kidney H& E Stain

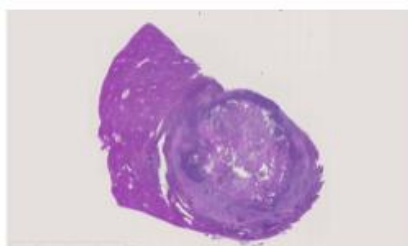


Kidney Histochemical Stain



Rabbit 3 – TC Injected Rabbit

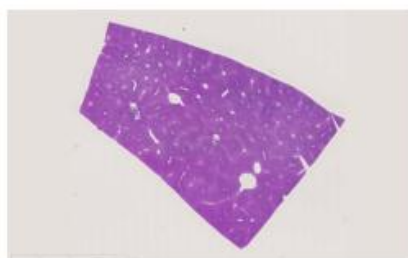
VX2 Tumor H& E Stain



VX2 Tumor Histochemical Stain



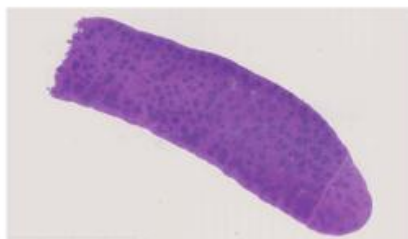
Liver H& E Stain



Liver Histochemical Stain



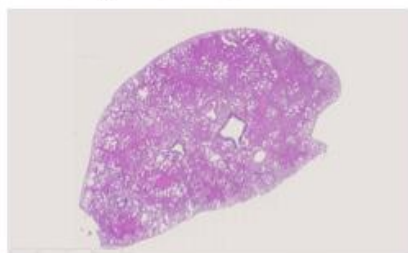
Spleen H& E Stain



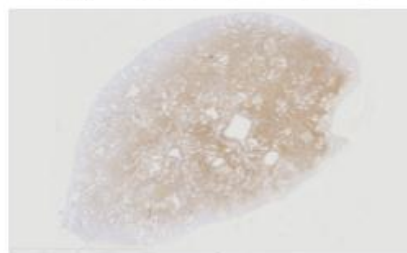
Spleen Histochemical Stain



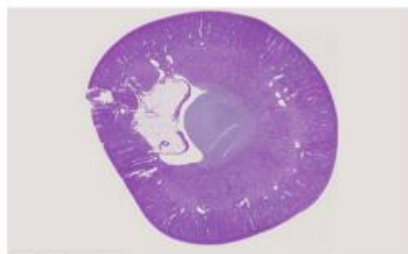
Lung H& E Stain



Lung Histochemical Stain



Kidney H& E Stain

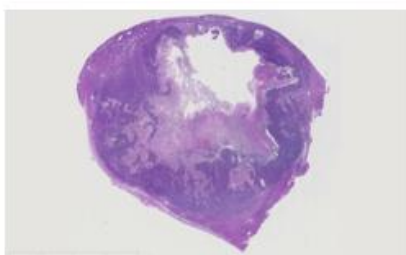


Kidney Histochemical Stain

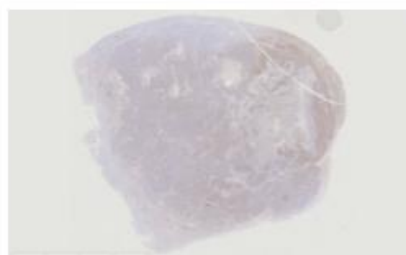


Rabbit 4 – IV Injected Rabbit

VX2 Tumor H& E Stain



VX2 Tumor Histochemical Stain



Liver H& E Stain



Liver Histochemical Stain



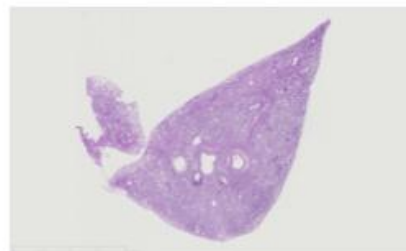
Spleen H& E Stain



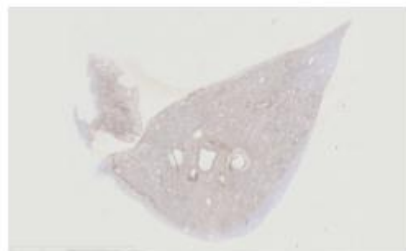
Spleen Histochemical Stain



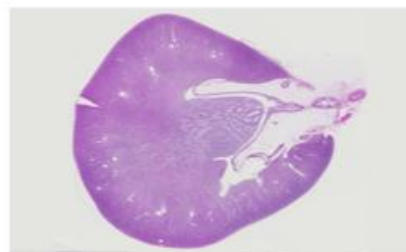
Lung H& E Stain



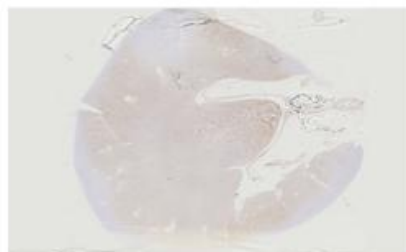
Lung Histochemical Stain



Kidney H& E Stain

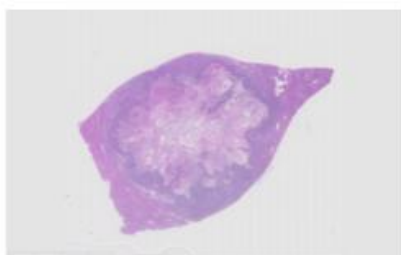


Kidney Histochemical Stain



Rabbit 5 – IV Injected Rabbit

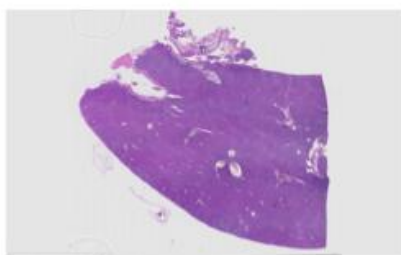
VX2 Tumor H& E Stain



VX2 Tumor Histochemical Stain



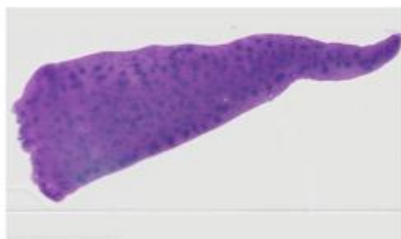
Liver H& E Stain



Liver Histochemical Stain



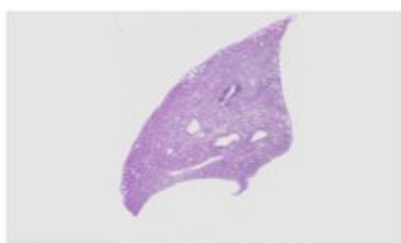
Spleen H& E Stain



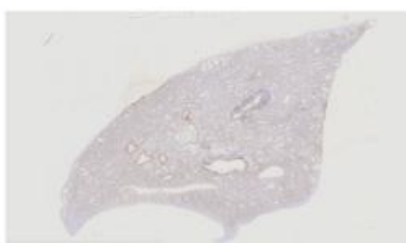
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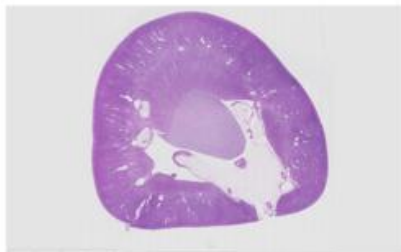
Lung H& E Stain



Lung Histochemical Stain



Kidney H& E Stain

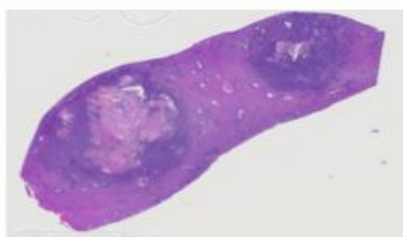


Kidney Histochemical Stain

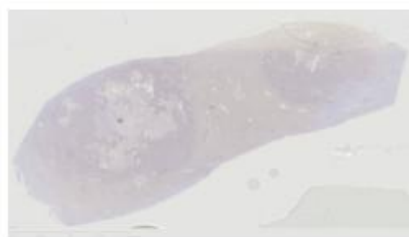


Rabbit 6 – IV Injected Rabbit

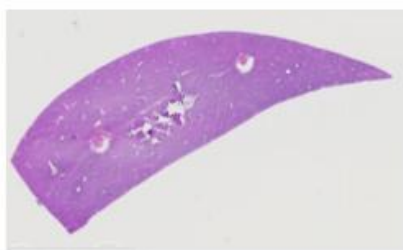
VX2 Tumor H& E Stain



VX2 Tumor Histochemical Stain



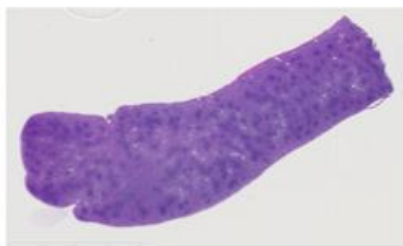
Liver H& E Stain



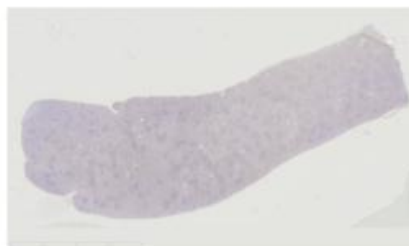
Liver Histochemical Stain



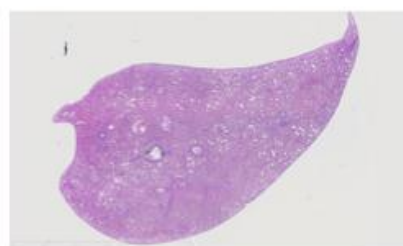
Spleen H& E Stain



Spleen Histochemical Stain



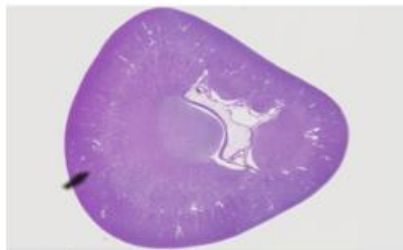
Lung H& E Stain



Lung Histochemical Stain



Kidney H& E Stain

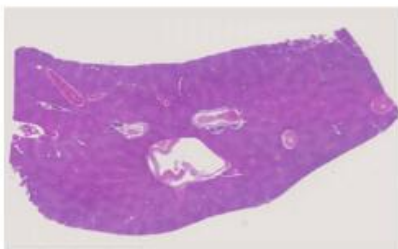


Kidney Histochemical Stain



Control 1 - Not Injected Rabbit

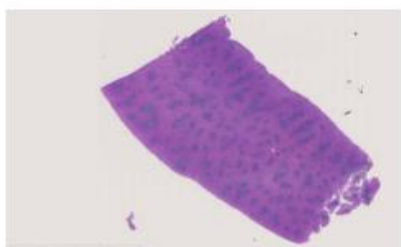
Liver H& E Stain



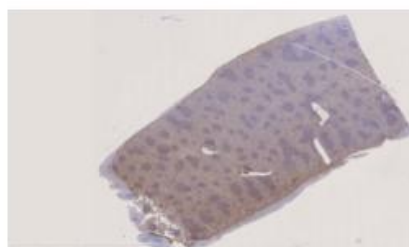
Liver Histochemical Stain



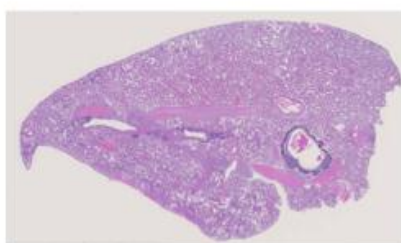
Spleen H& E Stain



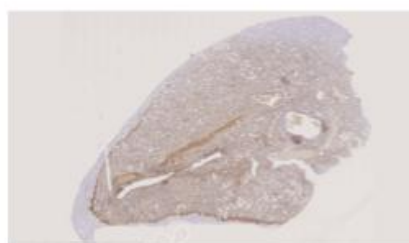
Spleen Histochemical Stain



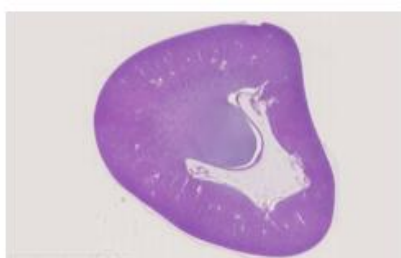
Lung H& E Stain



Lung Histochemical Stain



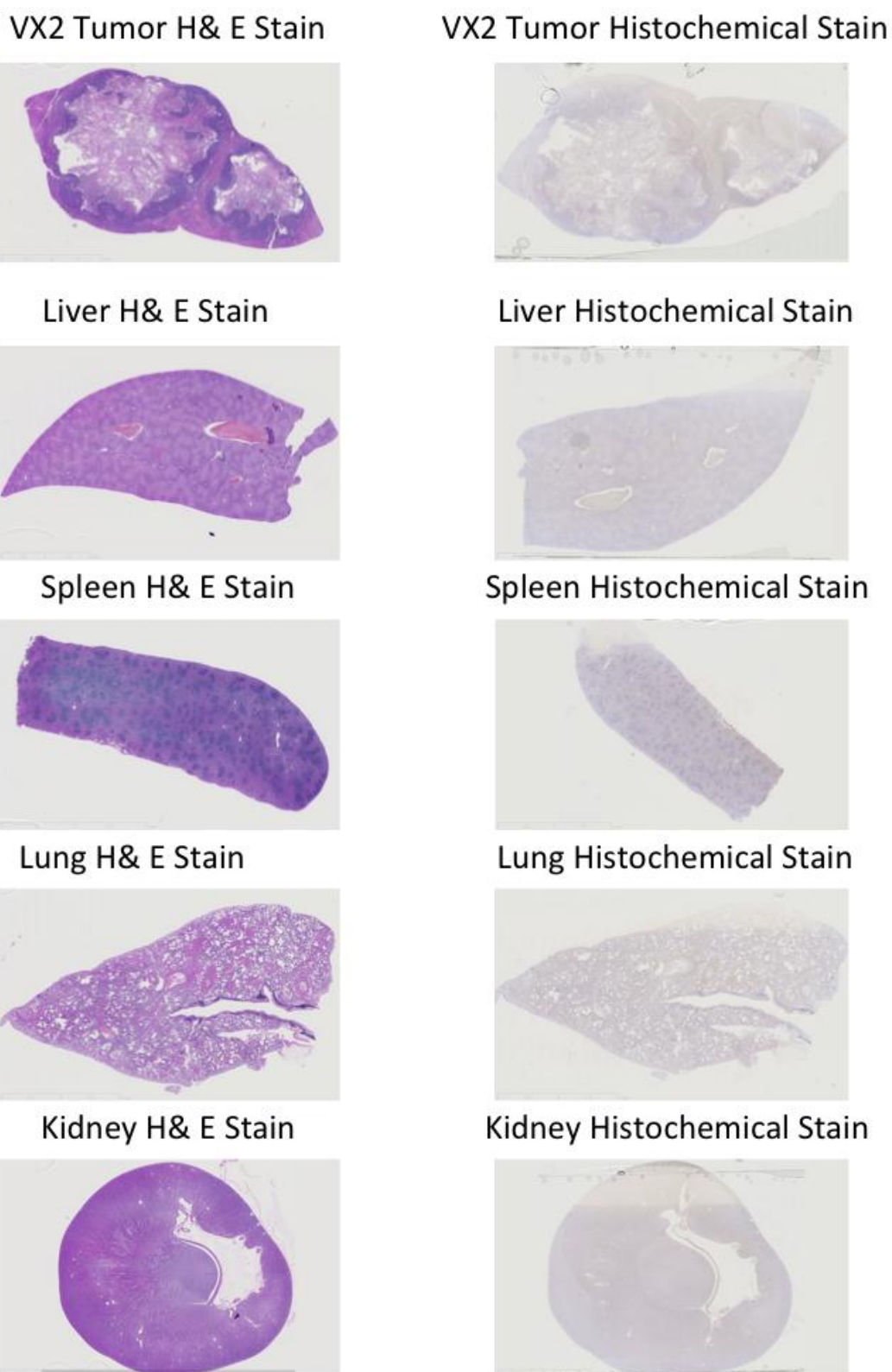
Kidney H& E Stain



Kidney Histochemical Stain



Control 2 - Not Injected Rabbit



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.

Reference

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