Supporting Information

Selective imaging of malignant ascites in a mouse model of peritoneal metastasis using *in vivo* dynamic nuclear polarization(DNP)-MRI

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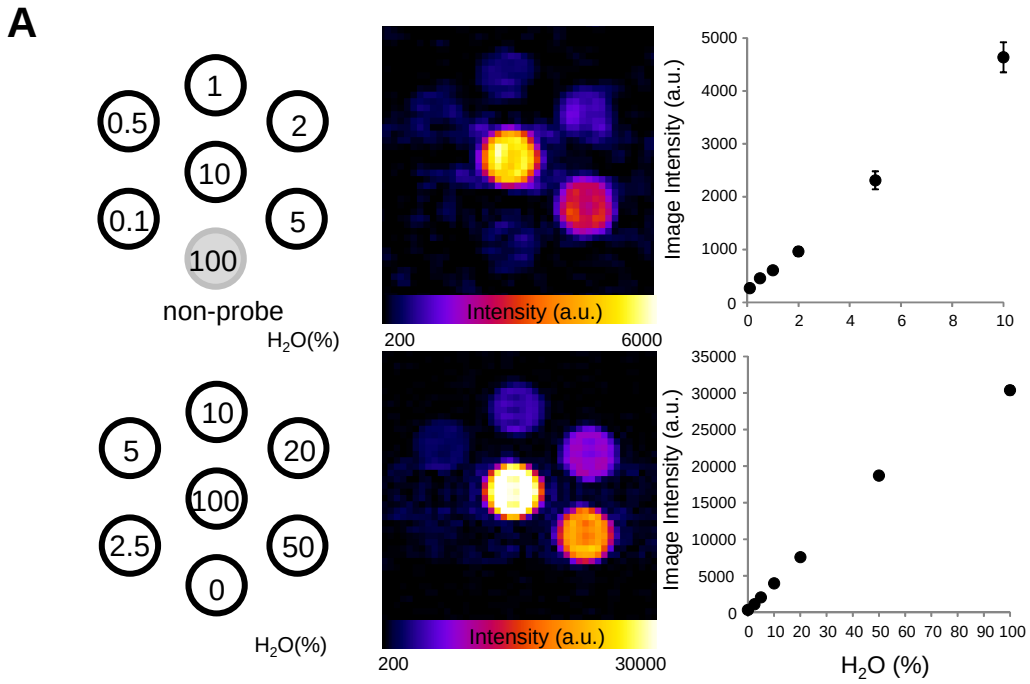
Supplement Figure 1



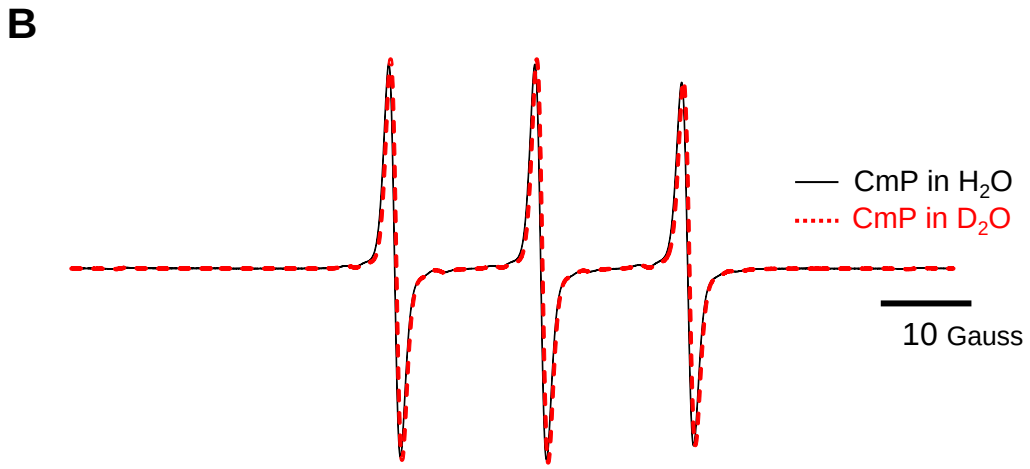


Figure S1. (A) Phantom images of H_2O-dependent signal change with DNP-MRI. The volume of H_2O was set from 0.1% to 100% in 2.5 mM Oxo 63/D_2O solution. a.u. (arbitrary unit), (B) X-band ESR spectra of 2.5 mM carbamoyl PROXYL (CmP) in H_2O is identical to that for D_2O. X-band EPR spectroscopy using the following parameters: microwave power, 1 mW; center of field, 328.184mT; modulation width, 0.6 × 0.1 mT; sweep time, 1min; sweep width, 5.0× mT; Amplitude, 4.0 × 10; and time constant, 0.03 sec

Supplement Figure 2

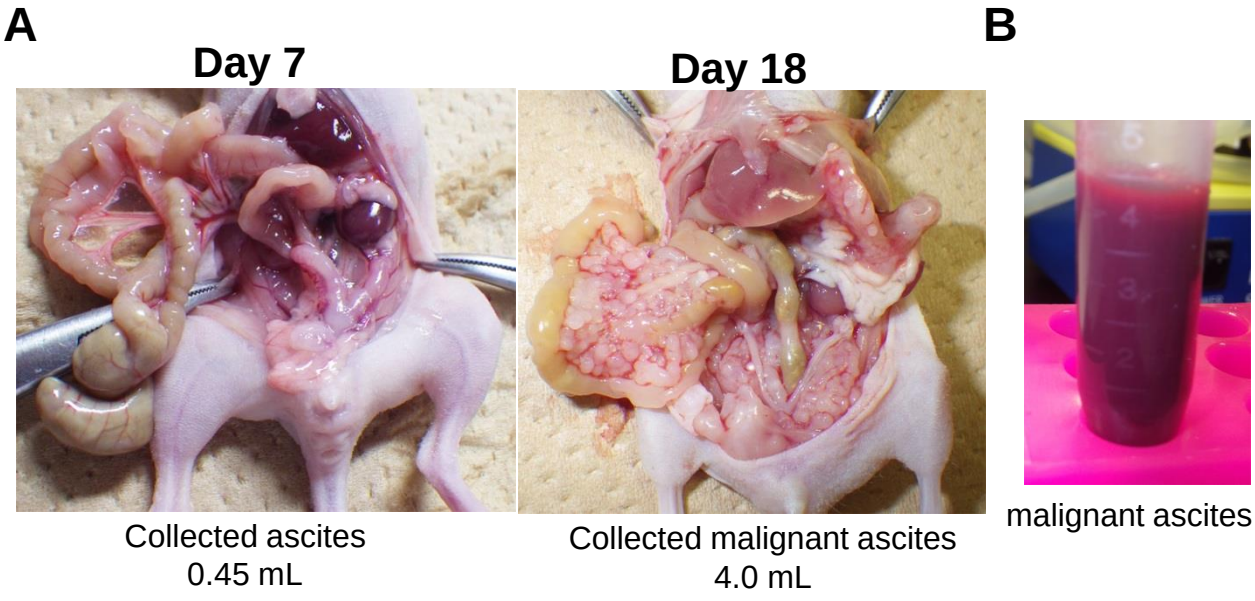


Figure S2. (A) Pictures of SUIT-2 peritoneal metastasis mice, 7 and 18 days after tumor cells were intraperitoneally administered. Disseminated tumor distribution across the abdomen was observed on day 18, from which 4.0 mL of malignant ascites was collected (B) .

Supplement Figure 3

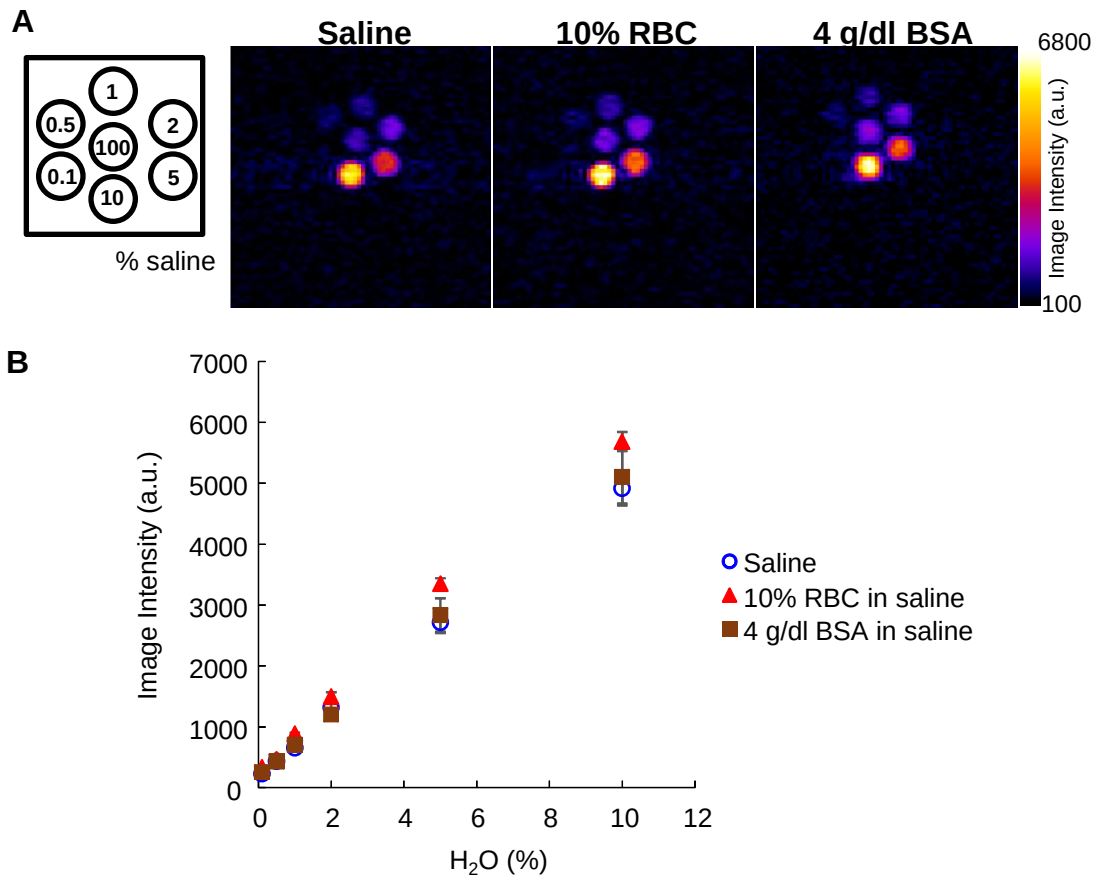


Figure S3. (A) DNP-MRI images of the phantom including saline, 10% red blood cell(RBC), 4g/dl bovine serum albumin (BSA) in saline. (B) image intensity change of the phantom. Image intensity by DNP-MRI is not affected by contamination of RBC and BSA.

Supplement Figure 4

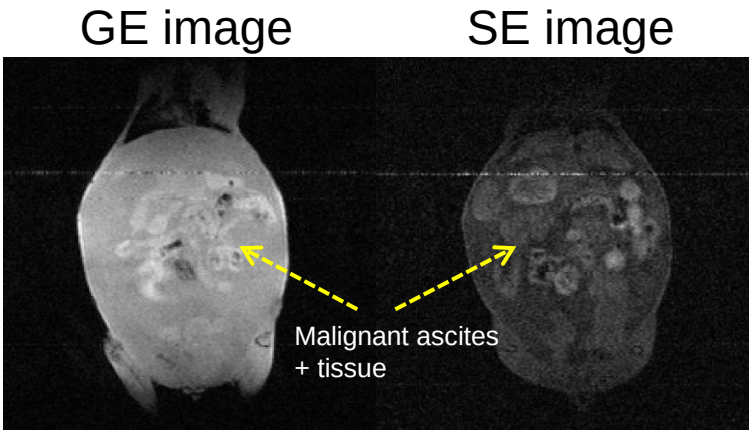


Figure S4. MR images of a SUIT-2 peritoneal metastasis mouse. Gradient echo (GE) and spin echo (SE) images 18 days after SUIT-2 cell injection. It is difficult to discriminate between malignant ascites and abdominal tissue. MRI conditions: GE method: TR = 250 ms, Te = 6 ms, Filip angle = 45 °, FOV = 64 × 64 mm, matrix = 256 × 256 slice thickness = 1 mm, average = 4, SE method: TR = 5000 ms, Te = 12 ms, Filip angle = 90 °, FOV = 64 × 64 mm, matrix = 256 × 256 slice thickness = 1 mm, average = 4.