Number of Manual Flashes (n)

## Supplementary Materials: Antitumor Effects of Intra-Arterial Delivery of Albumin-Doxorubicin Nanoparticle Conjugated Microbubbles Combined with Ultrasound-Targeted Microbubble Activation on VX2 Rabbit Liver Tumors

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10



Table S1. Percentage of echogenic area depending on the number of manual flashes.

40

60

80

100

120

140

Figure S1. Study design of the VX2 rabbit liver tumor treatment protocol.



**Figure S2.** Size distribution of albumin-doxorubicin nanoparticle in DMEM containing 10% fetal bovine serum and 1% antibiotics after 1 day.



Figure S3. Heterogenous ADMBs. (A) optical image and (B) size distribution. (scale bar: 10 µm).



**Figure S4.** Cell viability under the various conditions of ultrasound exposure and microbubble. ultrasound exposure with 1W/cm2 and duty 5% is only non-toxic condition. Other ultrasound conditions decreased cell viability. (\* p < 0.05)



Figure S5. TUNEL assay staining images of tumor region in (A) IA-ADMBs, (B)IV-ADMBs (C) blend microbubble. (Scale bar: 5 mm).



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