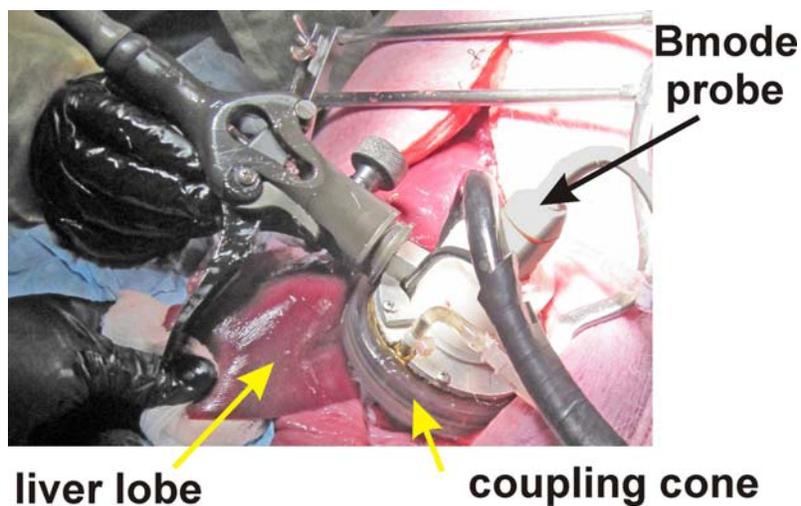
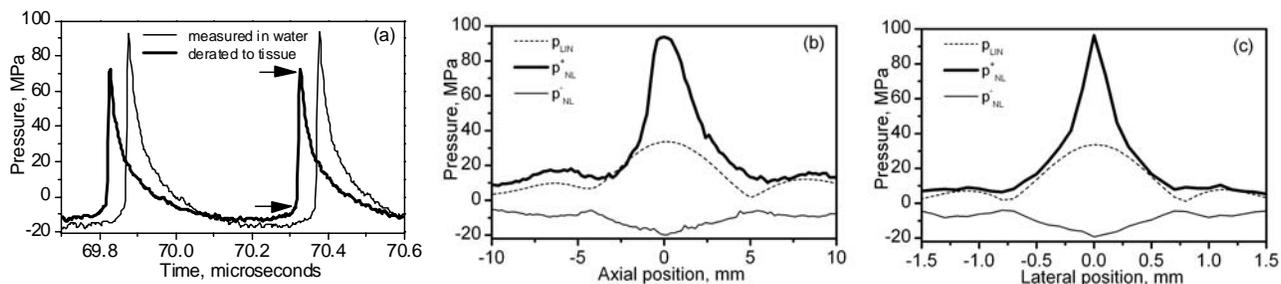


## SUPPLEMENTARY FIGURES

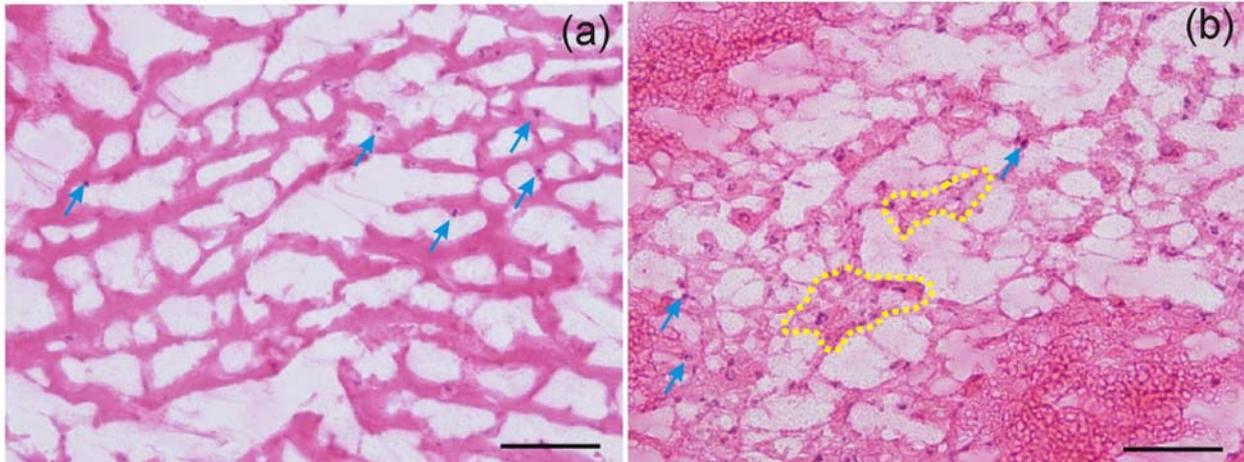


**Supplementary Figure 1.** A photograph of the experimental arrangement.



### Supplementary Figure 2.

Characteristics of the HIFU field: (a) The focal ultrasound waveform measured in water by the fiber-optic pressure hydrophone (thin line) and derated to tissue (thick line). The derating procedure accounted for higher ultrasound attenuation (0.08 Np/cm) and higher nonlinearity parameter (equal to 4) in tissue compared to water.<sup>8</sup> The shock front is marked by the arrows. The distribution of peak positive (thick line,  $p_{NL}^+$ ) and peak negative (thin line,  $p_{NL}^-$ ) pressures along (b) and across (c) the focal area of the HIFU transducer, measured in water by scanning the fiber-optic pressure hydrophone. Point “0” corresponds to the focus location. The dotted lines show the pressure distribution assuming linear propagation regime,  $p_{LIN}$ , given the same ultrasound intensity at the focus, for comparison.



**Supplementary Figure 3.** Magnified view of the H&E-stained histological sections of the debris contained in liquid (a) and paste (b) lesions produced *in vivo*. Ice crystal formation is pronounced in both images, indicating that the lesion contents is mostly liquefied. Both lesions contain a few intact cell nuclei (blue arrows), that are much more abundant in the paste lesion. The latter also contains larger tissue fragments, up to 100 microns in size, outlined by yellow dotted lines. The scale bar is 50 microns.